American Aviation

The Independent Voice of American Aeronautics

APRIL 1, 1945

British White Paper

THE British White Paper on air transport policy has at least the consuming benefit of ending all of the manifold speculation on British plans for international postwar commercial flying.

Fortnightly Review

Not only will there not be a single over-all monopoly but the policy gives evidence of a very considerable amount of thought and planning. Basically it is a compromise designed to satisfy all of the various elements in British air transportation but it also holds promise of being workable insofar as British requirements are concerned.

Britain's air transport problems differ greatly from those of the United States. Her internal routes are not of any substantial importance in contrast to the great importance of the U. S. domestic network. Her primary problem is that of connecting her island bastion with the possessions and Commonwealths around the world while the U. S. outlook lacks any such acute need for world-wide communications with the exception of Alaska, the Canal Zone, and the Pacific islands.

In addition there is a wide fundamental difference in transport concept. With all due credit, the British are more inclined to provide services on the basis of requirements, i. e., to transport those who have to be transported. The U. S. air transport industry has been developed on a much more aggressive and imaginative concept of salesmanship by which air services are "sold" and are made sufficiently attractive and appealing to draw patronage. The principal job of the U. S., the chief traffic-generating country of the world,

(Turn to page 4)

Acting Head of ATA

Stuart G. Tipton, counsel for the Air Transport Association, was named acting president of ATA following the death March 5 of Col. Edgar S. Gorrell, who had headed the association since 1936.

Late Bulletins

Discounts Held Up

The CAB suspended for 90 days the operation of discount tariffs on the Universal Air Travel Plan and government travel, to have been effective March 25, and called for a hearing to determine the legality of the discounts. The CAB action was predicated on the question of whether the 5% discount may be unjustly discriminatory or unduly preferential.

Interchange Accepted

United Air Lines has disclosed at the CAB's North Central hearing in DesMoines that it will enter into an interchange agreement with Western Air Lines at Denver, providing a direct 1-place service from Los Angeles to Chicago–New York.

Trend of The News

Surplus Plane Prices: There is no final formula as yet for the pricing of surplus aircraft, parts and equipment. Changes can be expected from time to time. One thing is certain, however. Prices that plane-hungry purchasers are paying for surplus planes are relatively far higher than the Government received for surplus craft after World War I—and this fact should help prevent any unjustified criticism of the aviation industry.

The Department of Commerce has just dug up some old records showing that surplus planes and equipment which had an original cost of $70,000,000 were sold from November, 1919, to September, 1923, for a total of only $7,000,000—a 10 percent return for the Government. While accurate percentage figures are not available on current sales, they will run many times the World War I figure.

Airline Wage Raises Out: With an eye on the whole airline industry, a special emergency board last fortnight turned down a joint request of Eastern Air Lines and the International Association of Machinists for an increase of pay rates ranging from five to 10 cents an hour above the established maximum.

The emergency board, first of its kind appointed by the President, warned that if the air carrier industry in general faced serious wage and employment problems because of competitive and operating conditions, wage boosts might be sought "on an industry-wide basis."

The board, accordingly, upheld the previous findings of a national railway labor panel which had denied the requested increase, and declared that wage rates established by the panel "should not be disturbed." The board's decision is subject to review by Stabilization Director William H. Davis where the "hold the line" formula is expected to be invoked again.

Sweden-U. S. Service: Signing of an agreement by Sweden and the United States, just disclosed in Stockholm, providing for flights of mutual courier planes between the two countries is expected to be put into full use soon. SILA (Swedish Intercontinental Airlines) will start flying to the U. S. before long. Training flights from Prestwick, Scotland, to Iceland are due shortly by SILA. Traffic is regarded as courier service, but it is considered probable that essential passen-

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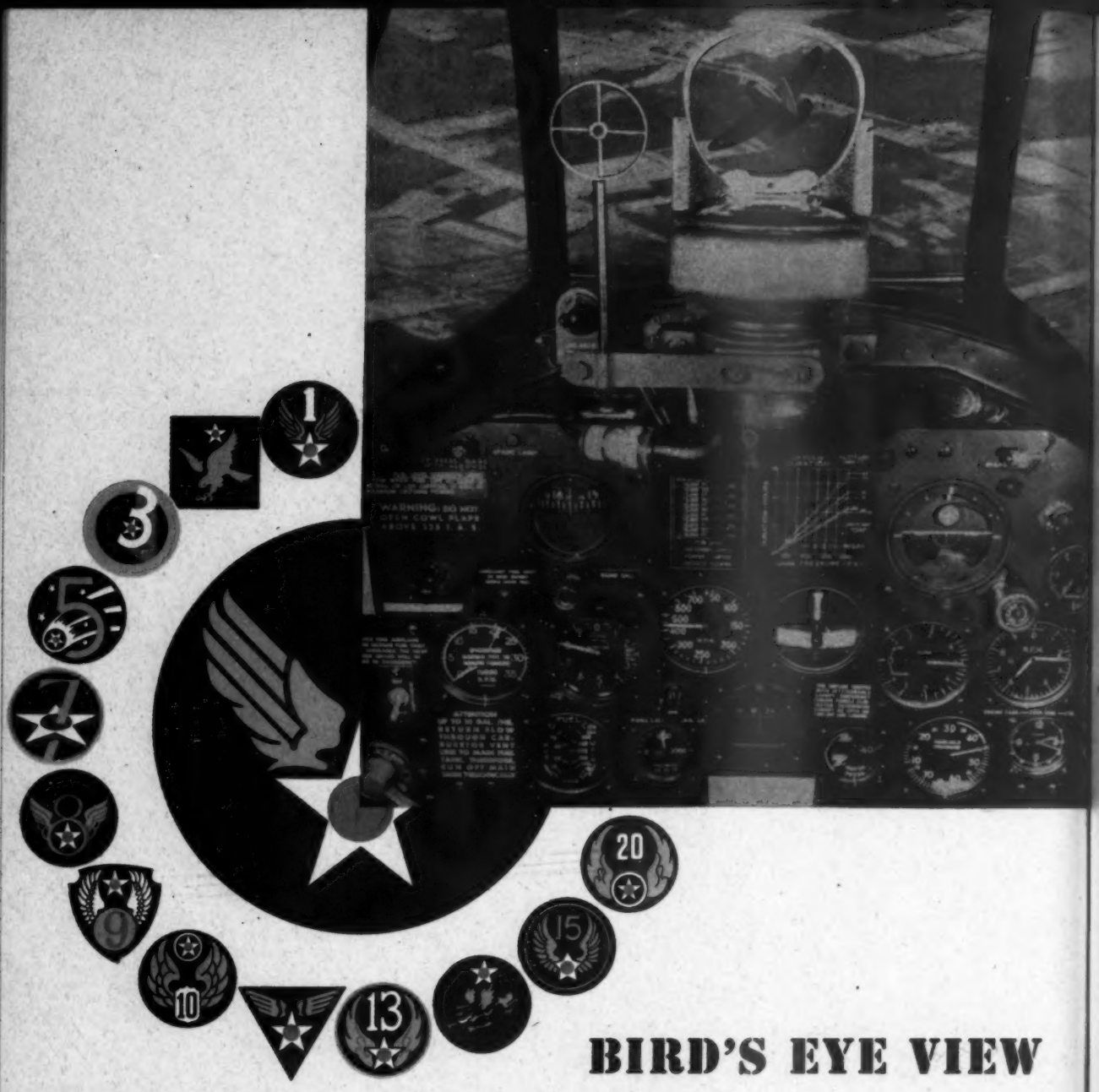
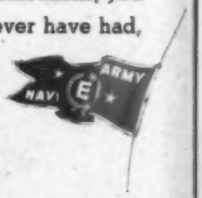


BIRD'S EYE VIEW

"Here, Herrenvolk and sons of the Sun, is what a Thunderbolt pilot sees as he peels off to wipe you out... You've heard about the Thunderbolt?*... Of course you have, but as we say in our quaint American way, you ain't heard nothin' yet... You've brought 'em down?... well, that happens, too, but at what a cost men, what a cost... The records tell that gratifying story. ¶ And naturally you've examined with awe, these instruments and other details of the few ships that fall into your hands... so we don't hesitate to publish this fine view. ¶ Confidentially, we're well aware that if you had the blueprints and complete specifications, you haven't the time... you haven't the material... and more important still... you haven't, and never have had, the kind of people... with the kind of spirit and the free-man's pride of accomplishment, which have made the name 'Thunderbolt', a synonym for allied air supremacy."

*THE RECORDS OF FIGHTER SQUADRONS EMPHASIZE THE UNMATCHABLE PERFORMANCE OF THE THUNDERBOLT AND ITS PILOTS.



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ONE of the big stories of the war is the magnificent work being done by the commercial airlines and their civilian crews in transporting vital cargoes to the four corners of the earth. They have rushed the weapons of victory to many a distant battlefield. They are blazing new trails for America's postwar supremacy in trans-global commercial aviation.

Goodyear is proud that a very high percentage of these big world-ranging transports are equipped with Goodyear airplane tires, tubes, wheels and brakes. From the ice-covered runways of Greenland to the blistering sands of Africa, this famed "landing crew" has proved its standout dependability and durability under the most difficult emergency conditions.

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THE GREATEST NAME IN RUBBER

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AVIATION PRODUCTS

(Continued from page 1)

is one of development in the interest of trade and national welfare.

Thus it is clear from the White Paper that the dominant force in the British plans is an Empire-Commonwealth air system in which British Overseas Airways Corporation will remain the primary instrumentality. The government will continue to exert the majority influence in the company although private capital is being invited to participate. Such a government-dominated Empire link was fully expected. It is a British plan to meet British requirements and as such it has no counterpart, or need for a counterpart, in the United States.

For British internal and European services, private capital and prewar private airline interests will be able to participate in a second substantial network, while South America will be given a third British combine in which the shipping companies will hold a large share.

The British air services to South America, largely private in nature, will most nearly approximate the postwar international air outlook of the United States. With one exception, no South American country is British. It will be a pioneering field for British air development in competition with airlines of other nations.

There is nothing in the British White Paper that should give the U. S. any cause for imitation or for fear. It indicates more notably than anything else that the British have unified their air differences and have endeavored to reach a compromise giving every faction either participation or satisfaction. The British tackled their problems with hard-headed realism. It is a government-inspired policy providing a blending of government supervision and private enterprise.

Of special interest to Senator Brewster, whose obstructionist tactics are holding up U. S. international air plans, and to Senator Pat McCarran, whose bill to create a single All-American Flag Line is now receiving committee consideration, should be the paragraph from the White Paper on the subject of monopoly.

"The government are convinced," the White Paper said, "that the policy of a single chosen instrument, whatever may have been its merits in the past, is unsuited to deal with the great expansion of the future. There must therefore be several transport undertakings. A single entity even if it could effectively include and use all the varied experience of aviation and transportation which it is necessary to bring in, would be too large and far flung to fulfill the requirement of individual supervision of all the routes operated.

"Moreover while as stated above it is clearly desirable to eliminate wasteful competition between British oprators on the same route, it is none the less desirable both to avoid a sealed pattern of management and operation and to encourage different managements to try out their own ideas. This would in no way prevent the constant pooling of experience and the government's plan is designed to secure this."

As we have said in these columns previously, what the U. S. needs is a unified policy and not a single airline. The unified policy can best be achieved through intelligent government coordination and not through a monopolistic airline combination which could not, under any circumstances, represent the best in

(Turn to page 8)

American Aviation

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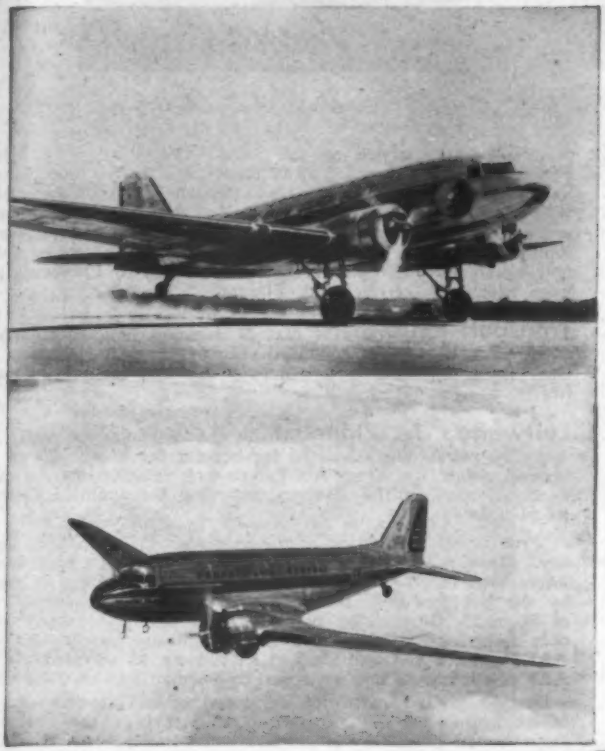

EASTERN Air Lines

PCA THE CAPITAL AIRLINE

UNITED AIR LINES

HAYES FAMED
EXPANDER TUBE BRAKES
ARE STANDARD
ON LINES SUCH AS THESE

WESTERN AIR LINES

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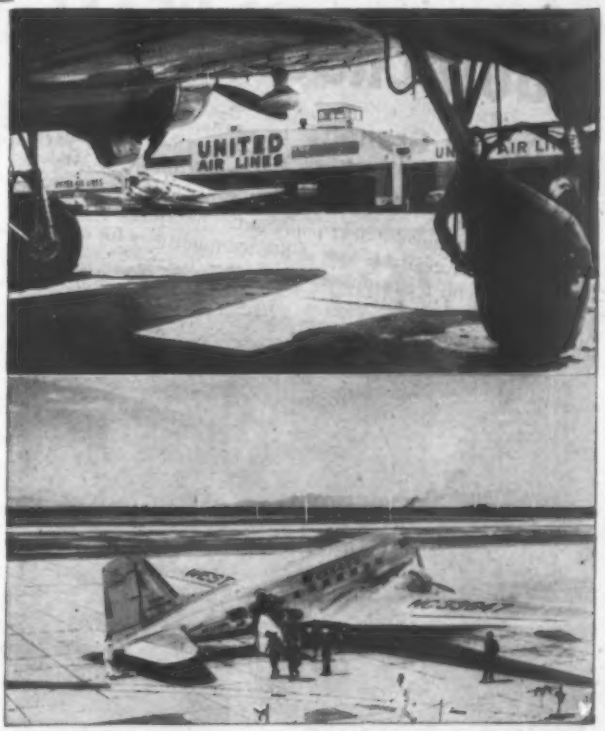

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Trends

(Continued from page 1)

gers will be permitted on the route. Converted B-17 Flying Fortresses with a capacity of 14 passengers will be used by the Swedes, while in Stockholm it was reported that the Americans will use C-54s. The Swedish line has ordered 10 C-54s and plans to put them into operation over the Atlantic via Newfoundland as soon as they are delivered. The Swedish planes now are operating regularly from Stockholm to Prestwick and from Stockholm to Helsinki, Finland.

Transport Helicopters: Large transport helicopters apparently are a lot further advanced than is generally believed. At least one gyroplane, which comes under this category, already has been flight tested.

Luftwaffe's Jet Plane: While the development of U. S.-made jet planes has advanced far beyond the knowledge of the general public, the Army Air Forces took occasion last fortnight to dispel some of the mystery regarding the vaunted German jet planes.

"From the first sighting of these aircraft to the end of January," said the AAF, "our flyers have reported seeing an accumulative total of 685 jet planes. Lack of aggressiveness is shown by the fact that only 166 encounters resulted in combat." As of March 1, German jet planes had been able to shoot down only four AAF bombers and seven fighters. Up to that time AAF bombers and fighters had shot down 49 jet planes while AAF fighters alone had destroyed 55 German jets on the ground.

Despite great superiority in speed, the German jets—the Messerschmitt 163 and 262 and the Arado 234—have not afforded the German pilots any great advantage in combat. The pilots appeared to be unfamiliar with their aircraft and unwilling to take aggressive action.

'Secret Gets Out': The fact that Ryan Aeronautical Co. is in mass production for the Navy on one of the most successful jet fighters yet developed is still an official secret so far as the Navy Department is concerned However, as in the case of many other aviation "secrets" on which a co-operative aviation press has been scooped, the secret was "let out" in Congress. Rep. Edward V. Izac (D., Cal.) was the first to discuss it, stating flatly in a speech on housing that Ryan employes engaged in building the new jet plane were desperately in need of more housing. Don't look for the Navy to loosen up on more details, however, for another two months.

Swedes Form Board: A Swedish Aeronautical Board is in the making. Up to 1936 all government aviation business in Sweden was handled by a person in the Department of Communications. In 1936 it was taken over by the Board of Road and Waterway Constructions. This arrangement was regarded only as temporary, and now to keep pace with expansion plans it is regarded as time for an independent aeronautical board. It will have a special aeronautical director, and there will be four other high officials representing civil aviation, commercial trade, foreign relations and the military air force. The director of the new board will be Carl Ljungberg, who already is in charge of aviation in the road and waterway board.

Aluminum Worries Ease: Production of aluminum, vital to the military aircraft program, probably will exceed earlier estimates by 48,000 pounds in the first quarter of 1945 when figures are released. This forecast, based on evidence of co-operation between the War Production Board, War Manpower Commission, Army, Navy, management and labor, was made by George Heikes, director of WPB's Aluminum and Magnesium Division. Army and Navy officials have asked the Aluminum Labor Advisory Committee to give equal co-operation to the greater problem of meeting increasing requirements for aluminum extrusions for aircraft and bridges. The schedule for June calls for a 65 percent increase over February production. The Labor Committee urged a seven-day work week.

Resignations: The resignation of the general manager and all the members of the board of directors of TACA de Mexico, S. A., has pointed attention to the fast changing picture of aviation in Central and South America.

May 19, 1943, Pan American World Airways said . . . **"The war has been a bitter laboratory for air transport, but a laboratory nonetheless. Its benefits should be available to all the people in the peace to come."**

Post-war foreign travel moves closer to the AVERAGE MAN and HIS FAMILY

By planning to move boldly ahead in the post-war period, Pan American has laid the groundwork for mass transportation by air.

Pan American's recently announced orders for a large fleet of more-than-200-passenger, post-war Clippers has produced much comment in the press.

But only in the aviation field itself has there been any awareness of what a tremendous stride this decision represents! Post-war, 4-engine aircraft for 50 passengers have been assumed by many people to be the next step in transport development. And such aircraft will, of course, be operated by Pan American on many routes as soon as they are available.

But Pan American's thinking went far beyond such aircraft when it came to transatlantic, transpacific, and such long-range routes as New York to Buenos Aires (5,436 miles).

For these express routes—which will, of course, be supplemented by many local services—Pan American has ordered one-hundred and two-hundred-passenger, sub-stratosphere Clippers.

The operation of these giant Clippers *in combination with* 21-passenger and 50-passenger transports will make possible new efficiencies.

Fares will be so low that for the first time post-war foreign travel by air will move within reach of the average man and his family.

Giant, 100 and 200-passenger Clippers will bring post-war fares within reach of the average man and woman.

PAN AMERICAN WORLD AIRWAYS

The System of the Flying Clippers

PAA

Editorial

(Continued from page 4)

engineering, operating, traffic and administrative abilities which this country's over-all air transport industry has developed.

Now that the British policy has been announced, it is time this country moved ahead in getting its own house in order. The government is unanimous in what it wants. The obstruction is in the Senate where a very small group of Senators, prodded by certain private interests, have set out to stall and delay government action. The result of delay may well be serious to the development of our commercial foreign air commerce.

Edgar S. Gorrell

THE untimely death of Colonel Edgar S. Gorrell early in March deprives the air transport industry of one of its hardest working leaders. As president of the Air Transport Association, his was almost a thankless job at times. But no industry association ever had a more loyal, devoted, and tireless manager. The contribution Col. Gorrell has made to the air transport industry will be all the more evident when the time comes to select a successor.

Winning Battles With Transports

IN ALL the uproar over the carrying of a dog by the Air Transport Command, some highly dramatic stories of achievements of the transport plane in the war have been overlooked by the public press. Here's one that has come to our attention. It is typical of many.

Last August in Normandy, an acute shortage of field radios developed. The Germans had struck down the walkie-talkie operators leading the troops in the assault on Caen and had cut the contact of the forward troops with the rear. The same thing had happened before. Field radio supplies were dangerously low. They numbered in dozens where they were needed in the thousands.

Plans for the break-through were already unfolding. St. Lo was the objective. Barely 24 hours before the attack, the answering TWX from the U. S. came in. It said, in effect, "Proceed with attack as planned; radios will arrive on time."

Even as the artillerymen lined up their targets across the green fields of Normandy, a fleet of 4-engined Douglas C-54's of the ATC took off from a U. S. airfield along the Atlantic Coast. Barely 18 hours later, while the opening guns were already spitting flame, the first C-54 came to a stop on a base in England. The radios were rushed to C-47's of the 9th Troop Carrier Command and were flown to the beach-head. In less than two hours the radios were in the hands of the men who were to use them.

Forty-six tons of radios comprised this rush air shipment. How far air transport has progressed when a heavy load such as this could be ordered, flown across the Atlantic and into the thick of battle in a matter of hours. Air transport has more than justified its use in the war.

A Notable Milestone

TWENTY-FIVE years ago this coming May, KLM, the Royal Dutch Airlines, opened its first service. The route was between Amsterdam and London. Few airlines in the world have had as distinguished a history and consistent record of achievement as has this well-operated and progressive air transport system.

The Dutch proved to be among the best airline operators in the world. The prewar KLM route from Amsterdam to the Netherlands East Indies was the top route in speed and service. By the time the present war occurred, KLM had an extensive network of lines over several continents and had opened a small network in the Dutch West Indies. A sister company, KNILM, was making aviation history in the East Indies. Now on the 25th anniversary of its organization, KLM is looking forward to reorganizing its routes and extending them even farther. We are sure that everyone in the American aviation industry wishes KLM Godspeed on completing its first 25 years of service.

WAYNE W. PARRISH.

Letters

Not a Luxury!

Assam, India,
February 23, 1945.

To the Editor:

I am submitting this to you in the hope that it is of sufficient merit to warrant printing in your publication. I thank you in advance for your kind attention.

America's airlines have placed advertising emphasis on luxuriousness with the resultant belief by a major portion of the American people that air travel is a luxury not to be indulged in by travelers of moderate means. Actually air transportation costs little more than first class Pullman rail travel. The airlines are presenting to the buyers the luxury factor; rather than the fact that considering time saved air travel is as cheap—in some cases cheaper—than rail travel. Professor Puffer in his book "Air Transportation" bears witness to this: "The cost of a flight from New York to Los Angeles would be about $140 in script ($158 cash). However the total cost of fare and extra loss of time—for a man earning $3500 yearly would be about $175 by rail."

Air travel saves time and time is very often money; it is this point which should be emphasized in attracting buyers' attentions. The airlines would do well to attempt to establish the correct impression that air travel is safe, swift, and economical; rather than creating the impression that air travel is essentially only a luxury.

SGT. SEYMOUR WALTER LEVINE,
Northern A.S.A.C.

Too Much Paper Work

Waterville, Me.,
March 14, 1945.

To the Editor:

I am wondering if there isn't some way that we can institute a concerted and concentrated campaign for lessening of the requirements for a private pilot. I think that in the interest of safety for commercial work the present commercial license is not too strict. However, I can see no reason why the fellow who wants to get a private license should have to be subjected to all of the study work, hours of classroom on meteorology, navigation, aircraft, motors, etc., all material which he will never use, before he is able to obtain a pilot's license.

I have found that the person who wants to get a private license has no great difficulty with his flight test but does have difficulty

Performance!

Dependability!

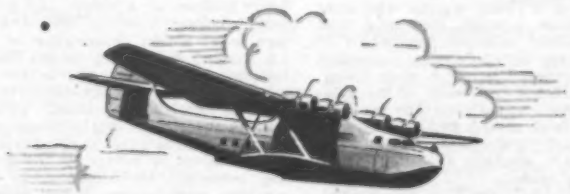
Maintenance!

MARTIN Aircraft Excel in All 3!

TAKE the Martin B-26 Marauder, for example. Speed of over 300 m.p.h., the firepower of eleven .50 calibre guns, heavy bombload, plus a record for exceptional accuracy in bombing . . . all these establish her outstanding performance. In dependability, there's her rugged strength, structural soundness, one-engine performance. Combat losses have been only four-tenths of one percent, while in training in the U. S. in 1943 she had the best safety record of any bomber. Maintenance? She requires less than any other bomber. Result: amazing availability which enables her to be in the air well over 80% of the time.

THESE same features are stressed in the Martin Mars. For performance, there's her record of 4,227 miles, non-stop; on another flight she carried 23,846 lbs. of mail. The Mars is the world's most economical airplane. Under optimum conditions, she can operate at less than 6 cents per ton-mile for a 1000 mile trip, which is the lowest direct flying cost for any transport today. Dependability is shown in her ability to make regular trips between Alameda and Honolulu every 2 or 3 days. This same quick turn-around demonstrates the Mars' ease of maintenance, especially since a good part of this time is spent loading and unloading. She's the world's largest flying boat, can climb on two engines and withstood, in test dives, a half-million pound pressure on her wings.

EQUALLY outstanding is the Martin PBM Mariner. Long range, heavy bombload and firepower, a remarkable record both as patrol bomber and transport . . . these are proof of high performance. Dependability is emphasized by rugged construction, ability to take off and land in high seas and capacity to take heavy over-loading in emergencies. Indeed, the PBM's dependability has been demonstrated by several successful landings on dry land with only minor damage to the planes involved. Ease of maintenance has been proven by the Mariner's pioneering of Pacific NATS routes when maintenance facilities at advanced bases were rudimentary.



FIRST plane to fly any ocean on a regular commercial schedule, Pan American's Martin-built China Clipper served across both oceans for more than ten years before meeting an untimely end when she struck a darkened boat in a blacked-out harbor. During her decade of service, the China Clipper flew the trans-Pacific route for 9 years, then shifted to the trans-Atlantic run. Her long years of service are added proof of the performance, ease of maintenance and absolute dependability of Martin aircraft. The Glenn L. Martin Company, Baltimore 3, Maryland.

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with the mass of information which he is forced to attempt to absorb and which he never uses afterwards (I do not believe I could pass a private pilot's license test at the present time myself even though I have been flying for 14 years and hold practically every rating with the exception of multi-motor).

I also feel that the physical examination set-up for a private license is entirely too strict and I do not believe (and this is the opinion of medical examiners I have talked with) that it accomplishes anything in the line of safety as it is supposed to.

If the aviation industry is to survive in the private owner field, something certainly has got to be done. This goes for the sheaf of papers that a private pilot or any pilot has to carry around to prove he can fly a plane, book work and papers connected with overhaul, repair, resale etc. of aircraft. I realize that a certain amount of this paper work is necessary in the interest of public safety but I feel it is going entirely too far.

W. H. MARDEN,
Marden Airways, Inc.

Paul, Not John

Edinboro, Pa.
March 18, 1945

To the Editor:

"John Bunyan's Canoe Moves" is the caption for the Mars flying boat picture on page 31 of *American Aviation* March 15, issue.

I suspect John was too busy writing Pilgrims Progress and preaching to have much time for canoes, if he had ever heard of one.

But Paul Bunyan of the super-strongman legend might have been interested in a craft of such dimensions.

Yours truly,
W. V. ZAHNISER
State Teachers College

Editors Note: Yes, Paul the strongman, and not John, the preacher, was interested in a big canoe.

"Ship Airgo"

Indianapolis, Ind.
March 17, 1945.

To the Editor:

Now that the talking is to be about air cargo—air express and air freight, why not, instead of air cargo, the word "Airgo?" "Ship Airgo."

MARY J. SOMMER

Steers Calls Again

Lansing, Mich.
March 5, 1945.

To the Editor:

You will recall some time ago I made some suggestions relative to the use of words and terms, which I felt was for the benefit of the industry, and I noticed the favorable comment of my suggestion. Consequently, I now have a couple more that I believe are for the best interests of the business.

For some months past officials of my organization have been working with other states in an attempt to gain some uniform aviation legislation within the states, and it is apparent that there are a couple of terms we could adopt and avoid the use of a couple more by so doing.

I have discovered that the word "zoning" immediately raises the fur on the back of the neck of various real estate operators and boards, with the consequence that the recommended Uniform Zoning Law as promulgated by CAA and the Institute of Municipal Law Officers is hitting some opposition. I believe we should avoid the use of the word "zoning" and substitute in lieu thereof a term such as "approach protection."

Oftentimes the individual who raises the loudest complaints is located in an area that would not be affected, because he is not in the runway approaches, nor is the height of his structure sufficient to warrant much consideration.

In the term "zoning" it embraces far too much territory and in the mind of the layman, it immediately signifies restrictions or a prohibition of some kind, so he immediately rises to the bait with opposition.

There is another term I believe we should avoid, and that is, in talking of federal moneys, state moneys, or any outside money for airport improvement or construction, we should avoid the use of the term "federal aid," for it smacks too much of "first aid," and in a sense symbolizes some form of subsidy to a person or municipality which is incapacitated or crippled. I would suggest that in referring to a program or legislation of this nature, we use the term "assistance." If it is to be federal money let's call it "federal assistance" or "financial assistance," but avoid the word "aid."

On the face of it these things may seem minor, but to those of us who are constantly working in the field with John Q. Public, these objectionables become apparent. Therefore, I am merely passing these suggestions on because I do believe they are serious enough to warrant consideration.

SHELDON B. STEERS,
President, National Association of State Aviation Officials

Enthusiastic Over Burnelli

Red Bank, N. J.
March 17, 1945.

To the Editor:

As a subscriber to and consistent reader of *American Aviation* I wish to propound the following query for consideration by yourself and your staff.

Why is the Burnelli lifting fuselage, all-wing plane never mentioned in your pages?

This plane, widely publicized, has been before the public for over 20 years and possesses these outstanding qualities:

It is safer than any other plane—its fuselage remains intact in a crash, thus enabling occupants, strapped to their seats, to escape death. This has been proven in crash landings.

The Burnelli is more efficient than any conventional type plane, is cheaper to fabricate and more economical in its operation.

Why the Burnelli has not been adopted by the military and transport authorities is enigmatical to your reader, especially in view of the fact that had this type plane been in use instead of the conventional type of non-lifting, crash disintegrating fuselage planes many valuable lives would have been saved.

Many of the finest pilots, military and transport, have flown and heartily approve the Burnelli type characteristics.

I wonder whether this is or is not a matter deserving the consideration of *American Aviation*.

FREDERICK W. BARKER.

Editor's Note: AMERICAN AVIATION has given recognition to the Burnelli UB-14 since its inception in 1937 and published news concerning it from Scottish Aircraft and Engineering Co., Ltd., Canadian Car and Foundry Co. Ltd. and Burnelli Aircraft of New Jersey. Only last November 1, AMERICAN AVIATION published a two column picture of TACA's Burnelli UB-14 over Roosevelt Field enroute from Montreal to South America. News of the plane has been somewhat static since the AAF declined to put it into production in 1942, but postwar possibilities of the transport are commanding interest., particularly with TACA.

Books

AIRLINE GIRL. By Patricia O'Malley. 202 pp. $2. Dodd, Mead & Co., New York.

Miss Patricia (Pat) O'Malley, who has lived the hustle and bustle of the aviation industry for 18 years, has written in her fourth book an easily read chatty type of story for older girls. An airline position has a natural fascination for girls, and in Airline Girl Miss O'Malley takes her young readers through the thrills and experiences of a young woman who went to Washington from a small town and took a job in the public relations department of a large airline. The airline, having a contract with the Air Transport Command, gives Caddy, the principal character, both sides of the aviation industry, the civilian and the military operations. This book should take a place with "Wings for Carol," "Wider Wings," and "War Wings for Carol," previous O'Malley books, on many library shelves.

W. L. R.

SAFETY AFTER SOLO. By Lt. Comdr. John R. Hoyt. 356 pp. $3. McGraw-Hill Book Co., Inc., New York.

This book points the way to safety, not especially for the fledgling pilot after his first solo, but particularly to every solo hour the rest of his flying life. It has been remarked that the most dangerous part of a pilot's life comes after he soloes, and this author says that it is even truer that there is a danger period in the time between 500 to 700 or 1000 hours because of cockiness, and a third danger period occurs between 2500 and 3000 hours because of willful depreciation of safety rules. Lt. Comdr. Hoyt aims to aid the pilot who has acquired enough flight time to become over-confident and careless. He points out how to combat the danger periods by acquiring the right mental attitude, correct technique and knowledge of what to expect. Such simple things as advice to "fly the plane, not the controls" are followed by facts about weather, cross-country flying, night flying, instrument turns and altitude flying which any pilot regardless of flight time can read to good advantage.

TWO HUNDRED THOUSAND FLYERS. By Willard Wiener. 196 pp. $2.75. The Infantry Journal, Washington.

The record of the men behind the men who fly the fighters and the bombers—those know-how aviation leaders in the civilian-AAF pilot training program must not soon be forgotten. This interesting and dramatic book is a complete record of the operators of the Army's Contract Pilot Schools, the flying instructors, ground school instructors and mechanics who teamed with the Army to train aviation cadets in flying fundamentals. It is the story of the red tape slashing, obstacle-surmounting businessmen and the glory-forgoing flying men who did their job so well.

Wiener takes special incidents at the various schools and handles their portrayal well, knitting them together into a fascinating story of grass-root experiences. He describes how America came back from the "beer bust" of unpreparedness as seen by the German airman, Ernst Udet, who on his visit to the United States had told Major William F. Long, Texas flying school operator, that Germany was preparing for a war with England in eight or 10 years.

The book tells how Col. Robert Scott, while a supervisory officer at a civilian-operated school in California, slashed the percentages of washouts. One of his students, whom he coached from early backwardness, was Charles Sawyer who later became the wearer of the Distinguished Flying Cross and 11 air medals.

In a 57-page appendix and index the author gives valuable reference material on the Aeronautical Training Society and its member schools.

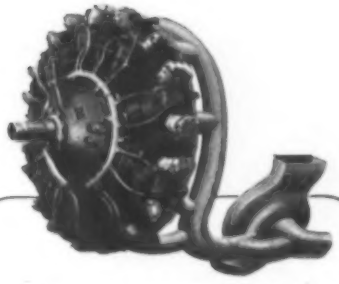
W. L. R.

Lower Sound-Level Cyclones for Increased Passenger Comfort

Smooth, quiet flight, which builds appreciation for air travel, is possible in two ways. One is to blanket noise with soundproofing, a method costly in weight. The other is to eliminate noise at its source.

Lower reduction gear ratios on Cyclones have long helped cut propeller noise. Now, coupled with the new Wright turbo-supercharger, Cyclones bring sound levels still lower by decreasing exhaust noise. Added comfort from lowered sound levels is important to all passengers and air crews. It is comfort which will do much to bring about greater public acceptance of travel by air.

Wright Aeronautical Corporation, Paterson, New Jersey, U.S.A.



THE WRIGHT TURBO-SUPERCHARGER

Light and compact, the Wright turbo-supercharger provides low level fuel economy at altitude. Air-cooled blades permit buried installations for drag reduction. Lowered exhaust noise adds comfort for passengers and crew.

WRIGHT
Aircraft Engines
A DIVISION OF CURTISS-WRIGHT

WRIGHT POWERS THE TONNAGE OF THE AIR

New Booklets

Boeing Airplane Co., Wichita Division, Wichita, Kans., has prepared a special booklet for the Kansas Press Association entitled "Kansans Build the Boeing B-29 and the Boeing Kaydet." It is the story of the Wichita Division's operations.

A new safety bulletin (No. 166.45) entitled "Why Do Pilots Have Mid-Air Collisions and How Can They Be Avoided" has just been released by the Civil Aeronautics Board's Safety Bureau, Commerce Building, Washington 25, D. C.

"Petroleum Marches On," an address delivered by William R. Boyd, Jr., president, American Petroleum Institute, 50 West 50th St., New York 20, N. Y., before the winter quarterly meeting of the Interstate Oil Compact Commission, has been issued as a 16-page booklet.

The theory of the airplane propeller, how it works, the reasons for pitch control, feathering, dual rotation, reverse thrust and propeller cuffs, and details of the Curtiss electric propeller are all present in simple layman's language in a new 32-page booklet "Propeller Theory" just published by the Curtiss-Wright Corp. Propeller Division, Caldwell, N. J. Profusely illustrated with pictorial diagrams and drawings, this booklet definitely strips the propeller of most of its mystery, and makes its functions easily understandable even to the nontechnical reader.

Two new reports of interest to aviation have just been issued by the Forest Products Laboratory, U. S. Department of Agriculture. They are "Breaking Radius of Discolored Wood in Aircraft Veneers" (No. 22) and "Bleed-Through of Glue in Aircraft Plywood" (No. 1541).

A new booklet on "The Airport Service Operator" and the part he plays in the distribution and servicing of aircraft, aircraft parts, supplies and equipment has been prepared by the marketing research department of Conover-Mast Publications, 205 East 42nd St., New York.

A four-page folder describing the Univac Brake Intensifier for Aircraft is now available from Pesco Products Co., Division of Borg-Warner Corp., 11610 Euclid Ave., Cleveland 6, O.

"Jacksonville, Florida—Center of Aviation in the Southeast" is the title of a new four-color illustrated booklet published by the Jacksonville Chamber of Commerce, Jacksonville 2, Fla., which presents the city's many positive advantages as an aviation center both now and after the war.

The story of the Aeroprop, how it is built, and the men and women who build it is presented in a 48-page case-bound booklet just released by the Aeroproducts Division, General Motors Corp., P. O. Box 1047, Municipal Airport, Dayton 1, O. The book is profusely illustrated in color and black and white.

Sperry Gyroscope Co., Great Neck, New York, has published two new illustrated manuals, one giving details of the gyrosyn compass, and the other of the autitude gyro.

A 38-page booklet on "Production Management and How It Affects Productivity, Costs, Employment" has been issued by Albert Ramond and Associates, Inc., New York 17, N. Y.

A new case-bound, pocket-size handbook entitled "Quality Control" has just been released by Continental Machines, Inc., 1301 Washington Ave., South, Minneapolis, Minn. Its 140 pages include over 200 photographs, diagrams and charts, and give a concise explanation of scientific inspection through controls offered by precision measuring instruments.

"Advice to Employer Regarding Selective Service" which outlines the new certification procedure for deferment requests and provides employers with an overall statement of Selective Service procedures affecting occupational deferments has been issued by the War Production Board. (Text available.)

Esquire Magazine, Madison at 46th St., New York 17, N. Y., has made available in booklet form the survey on "U. S. Market for Helicopters" compiled by its research department.

Kellett Aircraft Corp., Upper Darby, Pa., has issued an eight page leaflet entitled "Answering Some Helicopter Questions."

Fluid Heat Division, Anchor Post Fence Co., Baltimore 24, Md., has published a four-page folder describing its aircraft heaters and automotive type heaters, and showing three-color cutaway views of each type.

The M. W. Kellogg Co., 225 Broadway, New York 7, N. Y., has issued a 32-page illustrated booklet entitled "OIL REFINING—Engineering to New Precision Standards" describing its contributions to the various forms of refinery equipment.

Krembs and Company, 669 West Ohio Street, Chicago 10, Illinois, have issued a pamphlet showing the application of their Pluxine Flexes to stainless steel, stainless iron, and nickel and chrome alloys. The information contained in this literature is especially applicable to the aviation industry. The data was prepared by a group of consulting welding engineers.

Perfection Tool & Metal Heat Treating Co., 1740 West Hubbard Street, Chicago 22, Ill., have just issued a booklet called "Fifty Facts." It cites actual experience in 50 manufacturing plants, showing how more than half the tools in common use may be made to work longer and better, through the use of (a) new and better ways of hardening soft steels and (b) a supplementary treatment called "AD-LIFE" for previously hardened, finished tools.

New Films

Two new films—"Target Japan" and "Pacific Firepower"—have been made available by the Navy's Industrial Incentive Division for showing to war workers in plants and to labor unions. The first is a 12-minute film emphasizing the task force built around the aircraft carrier. It was produced in cooperation with the March of Time, and is available in both 16 mm and 35 mm prints. The second, available is 16 mm only, features the part played by aircraft in the conquest of the Marianas. A nominal rental charge is made for these films. They may be obtained from Chief of the Industrial Incentive Division, 2118 Massachusetts Ave., N. W., Washington 25, D. C.

A new 16 mm educational sound film is now available for showing from the Aeroproducts Division of General Motors Corp. Educational in nature, the film explains the need for and value of propellers, records the short history of Aeroproducts, and tells of the methods used in the manufacture of the Aeroprop. Running time is 18 minutes. Requests should be sent to C. J. Proud, Aeroproducts Div., Dayton 1, Ohio.

Wings of Yesterday

Twenty-five Years Ago

Air Mail Pilot James H. Knight flew 340 miles from New York to Cleveland in two hours, 10 minutes, an average speed of 157 mph., carrying 16,000 letters. (March 30, 1920)

Radio communications were established between a seaplane and the Naval Air Station at Anacostia, D. C., and between a seaplane and a submarine in the Navy Yard, demonstrating possible communication up to 70 miles between submarine and seaplane. (March 30, 1920)

Capt. W. R. Lawson and Lt. R. E. Davis made a military reconnaissance flight of 900 miles, between Langley Field, Va.-Camp Glenn, N. C.-Wilmington, N. C.-Fayetteville, N. C.-Charleston, S. C.-Fayetteville, N. C.-Langley Field, Va. The actual flying time was 11 hours, 23 minutes and the elapsed time 56 hours, 25 minutes. (March 31-April 2, 1920)

Lt. Everett Davis, 8th Aero Squadron, in a D.H.-4-B, flew from Kelly Field to McAllen, Texas, covering the 256 miles in one hundred minutes. (April 1, 1920)

The first Aero Conference of South Africa began its sessions. (April 1, 1920)

Air mail service was opened on the Frejus-Toulouse-Rabat route, for Spanish mails between Barcelona, Alicante and Malaga. (April 1, 1920)

Juan Leguia, the son of the Peruvian president, broke the local record for nonstop flight, covering 300 miles between Lima and Trujillo, Peru, in a Curtiss "Oriole". (April 4, 1920)

Fifteen Years Ago

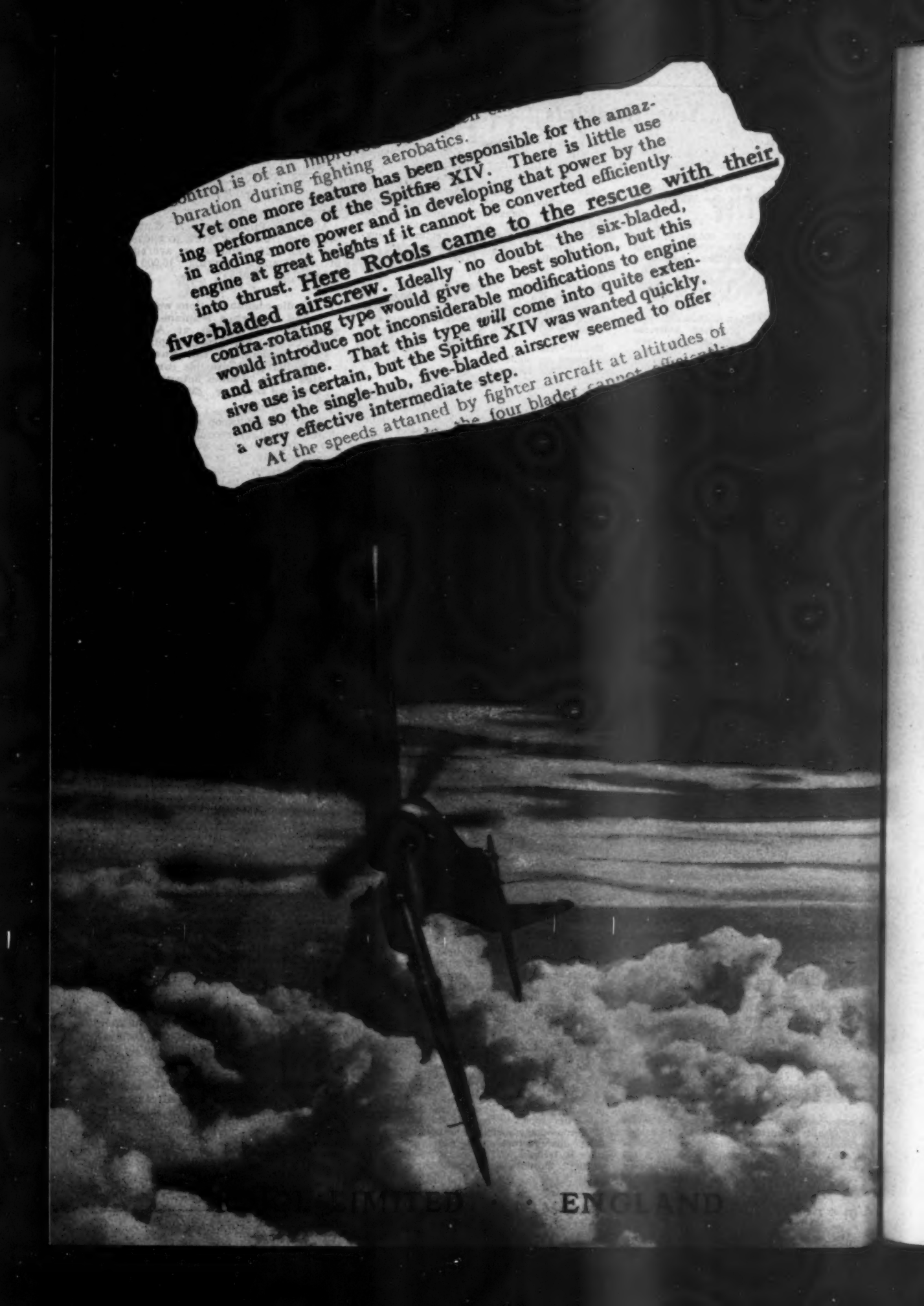
The Cincinnati Aircraft Show was in progress for the week, in Cincinnati, Ohio. (March 26-April 1, 1930)

Capt. Frank M. Hawks was towed in a glider, by a Waco plane, from San Diego, Calif. to New York City, 2800 miles, in 36 hours, 47 minutes flying time. (March 30, 1930)

William Alexander, pilot, Capt. L. A. Yancey, navigator, and Zeh Bouck, radio operator, reached Bermuda from New York, after spending the night on the sea sixty miles from Bermuda. (Stinson, Wright Whirlwind motored) (April 1-2)

The third annual All-American Aircraft Show was held for a week in Detroit, Mich. (April 5-13, 1930)

Orville Wright was awarded the first Daniel Guggenheim medal for Aeronautics. (April 8, 1930)


ontrol is of an
buration during fighting aerobatics.
Yet one more feature has been responsible for the amaz-
ing performance of the Spitfire XIV. There is little use
in adding more power and in developing that power by the
engine at great heights if it cannot be converted efficiently
into thrust. Here Rotols came to the rescue with their
five-bladed airscrew. Ideally no doubt the six-bladed,
contra-rotating type would give the best solution, but this
would introduce not inconsiderable modifications to engine
and airframe. That this type will come into quite exten-
sive use is certain, but the Spitfire XIV was wanted quickly,
and so the single-hub, five-bladed airscrew seemed to offer
a very effective intermediate step.
At the speeds attained by fighter aircraft at altitudes of
the four blader
IMITED
ENGLAND

Finish the Fight — with War Bonds

Wing strength for a Superfortress

That gleaming mass of metal, rugged and thick as a railroad rail, is a lower rear spar chord, one of the vital structural members of a Boeing Superfortress wing. When the photograph was taken it was being shaped on a huge milling machine in Boeing's Wichita plant. Today it's flying over Tokyo.

The design and construction of the wing—utilizing the Boeing "117" airfoil—is one of the factors that make B-29 performance possible. Without it, long-range missions, at fighter-plane speed, with immense bomb-loads, would still be in the realm of wishful thinking.

Engineers of the Boeing Aerodynamics Unit developed the wing and proved the remarkable qualities of its airfoil in wind tunnel tests. Building the necessary tremendous strength into the wing structure was the next step, and heavy chords were designed for the main spars. Weighing 255 pounds when machined, this chord of aluminum alloy, pictured above, is the largest extruded part ever used in a production airplane.

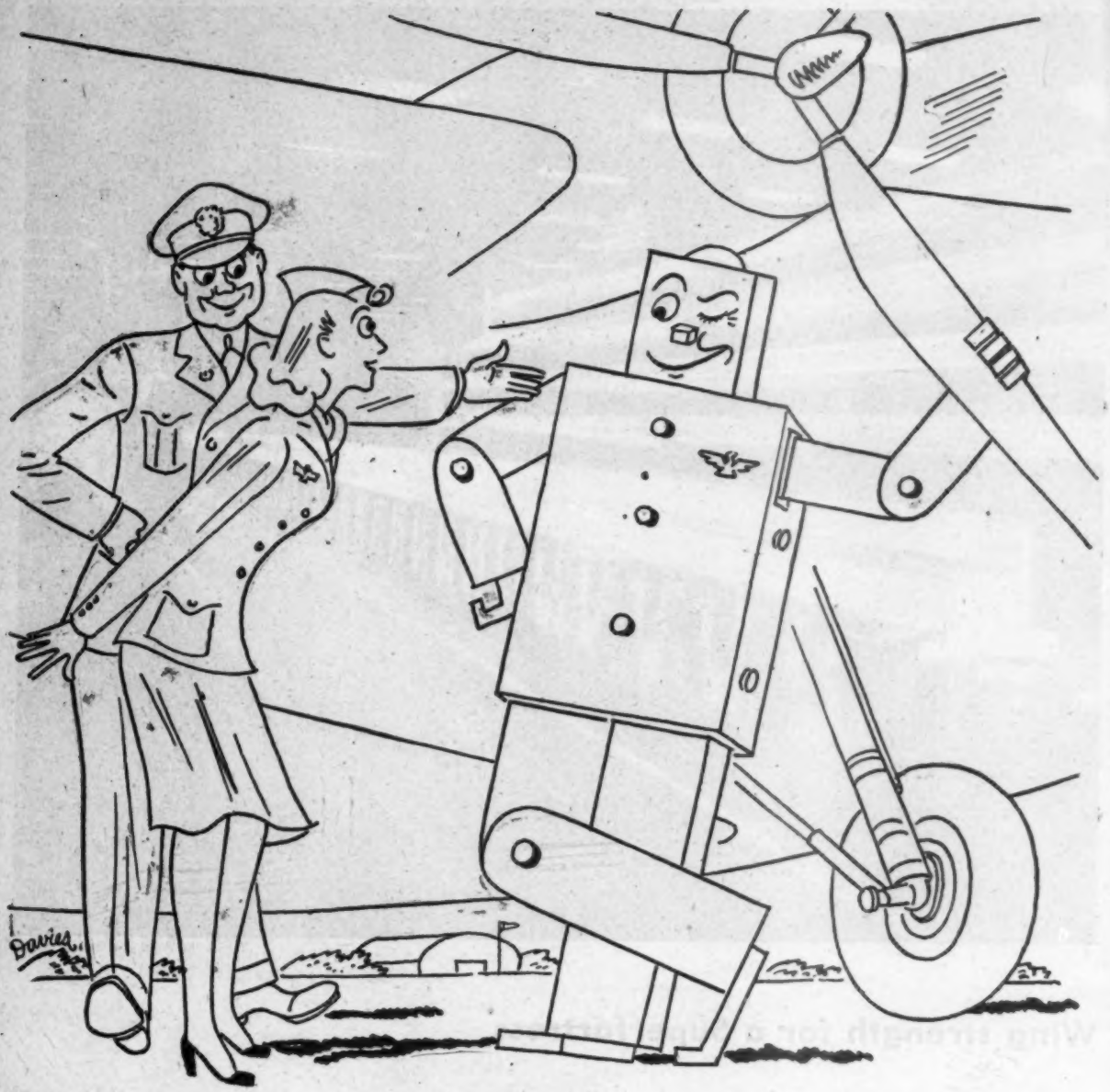
In the systematic bombing of Japan, the B-29's superior aerodynamic design and sturdy construction have helped the stout-hearted men of the 20th Air Force to bring many a crippled Superfortress back to base, even though severely damaged over the target by flak or fighter opposition.

To the task of building warplanes worthy of the skill and high courage of American airmen, all Boeing's abilities are dedicated today.

In a future time of peace, Boeing products will continue to be soundly and honestly designed, engineered and manufactured. Tomorrow, as today, you can know of any airplane . . . if it's "Built by Boeing" it's built to lead.

DESIGNERS OF THE B-29 SUPERFORTRESS • THE FLYING FORTRESS • THE NEW STRATOCRUISER
THE KAYDET TRAINER • THE STRATOLINER • PAN AMERICAN CLIPPERS

BOEING



"Meet our new co-pilot"

There's no telling just how far science will take us in the next decade of progress in aviation. But there are some indications as to the direction it is likely to take.

For one thing, the ability of the petroleum industry to furnish commercial quantities of better than 100-octane gasoline after the war automatically opens up opportunities to improve the performance and economy of post-war airplanes.

You are already familiar with the tremendous advances made possible by the widespread use of 100-octane gasoline containing Ethyl fluid—particularly in military planes. However, 100-octane is by no means the ceiling. Experimental fuels with antiknock ratings so high that they cannot be expressed by the octane scale are already in production. By blending these fuels with Ethyl fluid the petroleum industry will be able to offer super-octane aviation gasolines.

The period immediately following the war may well become one of experimentation aimed at finding the most effective methods of utilizing these super fuels.

Ethyl Corporation

CHRYSLER BUILDING, NEW YORK CITY

Let's Keep It The Best Place On Earth

● Continental U.S.A. is only about 1½ per cent of the earth's surface, but it is the biggest country in productive power. Also, it is the best place in terms of human opportunities and standard of living.

We have had to fight for it. We have to exercise eternal vigilance and work hard to preserve it. We must keep it the best place on earth, now, in our new era of increasing global air transportation.

We have the engineering and aircraft manufacturing ability and the airline experience to keep the U.S.A. the *first* among nations as an airfaring people. We believe that Americans are alert to the necessity, effectively, to utilize what is possible only with air transportation.

To help insure our nation's prosperity and security, American Airlines is preparing to expand its domestic services after the war with a great fleet of the fastest and most modern Flagships. In the meantime, *thanks* for your cooperation. More than ever we are eager to receive your suggestions—both from those who can and those who cannot travel with us now.

AMERICAN AIRLINES *Inc.*

THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS

Vol. 8 No. 21
April 1, 1945

American Aviation

Net Paid
10,863
This Issue

New Equipment for Airlines a Possibility

Data on Exact Requirements of Domestic Lines Being Gathered at APB's Request

By BARBARA C. MCNAMEE

"THERE IS A POSSIBILITY that we may be able to get some new equipment for the airlines to enable them to meet essential war demands for air transportation," Henry P. Nelson, director of the Aircraft Division of the War Production Board, announced at the first meeting of the newly-formed Airlines Advisory Committee on March 21 in Washington. Nelson said statistics are being collected on the exact requirements of the airlines for presentation to the Aircraft Production Board.

The prospect of obtaining new equipment for the airlines became brighter with the announcement that all authority to act as a claimant agency for the airlines has been transferred to the Aircraft Division. For the first time since the outset of the war, the airlines now have an organization to plead their case before the Requirements Committee, which divides available material and production space between the military and essential civilian needs.

Reconversion Costly

The reconversion of military planes to civilian uses is highly uneconomical, the committee agreed. Nelson pointed out that it requires more manhours of more highly developed skills to convert a plane which has been in use as a military transport than it does to build a new plane. The committee was also in agreement that it is uneconomical from a business standpoint since it costs as much to convert an obsolete DC-3 as it does to buy a new modern-type plane.

Grover Loening, technical consultant to the WPB chairman, pointed out that steel and other critical materials are diverted each month for the production of new railroad cars and rails. Loening said it should be proven to the Armed Forces that the production of new planes for the airlines is as vital to the war effort as rail cars or new planes for the Troop Carrier Command.

Some of the facts cited by committee members to prove the need for more air transport equipment were that 10 percent of the domestic air mail is now being refused and that, although the overall number of priority passengers carried on domestic lines is only 60 percent on many individual runs it has a yearly average as high as 90 percent.

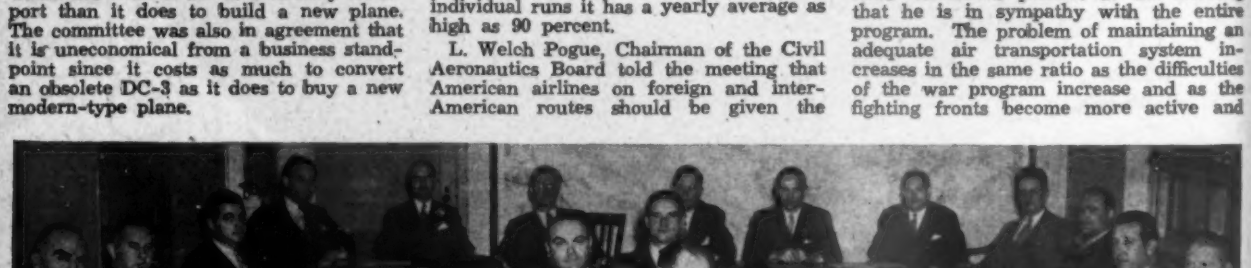
L. Welch Pogue, Chairman of the Civil Aeronautics Board told the meeting that American airlines on foreign and inter-American routes should be given the newest equipment available. If our present obsolete planes are converted, they will not stand comparison with new models being developed by foreign countries, he said. The potential value of our foreign reputation must not be forgotten, he added.

The Office of Defense Transportation believes that with additional equipment the domestic airlines could be of great value to the war effort in the carrying of emergency cargo and personnel, H. H. Kelly, director of ODT's Division of Materials and Equipment, told the meeting. ODT has transferred to the Aircraft Division its authority to act as claimant agency for the airlines in the procuring of manpower and materials.

WMC Has Suggestion

George N. Weintraub, of the War Manpower Commission, stated that the tight manpower situation would be greatly eased if the highly skilled mechanics now working on the conversion of military transports to commercial planes could be freed for maintenance by producing new commercial transports with the less skilled and fewer number of men needed for that operation.

ODT, CAB and the airlines will join with the Aircraft Division in summarizing the needs of the airlines to present to Aircraft Production Board Chairman J. A. Krug, Nelson said. Krug told the airlines executives present at the meeting that he is in sympathy with the entire program. The problem of maintaining an adequate air transportation system increases in the same ratio as the difficulties of the war program increase and as the fighting fronts become more active and



Among those attending the Industry Advisory Committee meeting were (seated clockwise around tables): E. V. Rickenbacker, president of Eastern Air Lines; W. A. Patterson, president of United Air Lines; C. Bedell Monro president of Pennsylvania-Central Airlines; L. Welch Pogue, chairman of the Civil Aeronautics Board; H. H. Kelly, of Office of Defense Transportation; T. P. Wright, administrator of the Civil Aeronautics Administration; Henry Nelson, director of the War Production Board's aircraft division; Morton H. Wilner, deputy director of the WPB aircraft division; A. E. Edwards, of the WPB Industry Advisory Committee; Leo S. Panek, assistant director of the WPB aircraft division; Col. William B. Harding, director of Aircraft Division of Surplus Property Board; Robert F. Six, president of Continental Air Lines; and Halsey R. Bazley, president of All American Aviation. Those seated between tables in center of picture (front to back): Jack Frye, president of Transcontinental & Western Air; Paul F. Collins, president of Northeast Airlines; Sigmund Janas, president of Colonial Airlines; and Ralph S. Damon, vice president and general manager of American Airlines.

Aviation Calendar

April 10-19—World Air Transport Operators meeting, Havana.

April 24—First meeting Aircraft Manufacturers Advisory Committee of WPB, Washington.

June 2—Interhemisphere conference on frequency allocations and revisions, Rio de Janeiro.

Oct. 31-Nov. 3—National Aviation Clinic, Oklahoma City. Pre-Clinic conference Oct. 27. (Arrangements tentative, depending on ODT regulations in force at that time.)

farflung, he said. He praised the airlines for their tremendous performance with limited equipment in the past four years.

Col. William B. Harding, Director of the Aircraft Division of the Surplus Property Board, said that SPB does not want surpluses to become a handicap to production.

"Their place is filling the gap for emergency needs," he said.

Nelson revealed that the Army Air Forces have advised him that they are sympathetic to the airlines' situation and will be glad to consider their proposals as soon as they are presented concretely as to the exact number and general type of planes needed.

List of Those Present

The following members of the committee attended the meeting: Halsey R. Bazley, president, All American Aviation, Inc.; Ralph Damon, vice president, American Airlines; John E. Slater, executive vice president, American Export Airlines; Sigmund Janas, president, Colonial Airlines; Robert F. Six, president, Continental Air Lines; C. E. Woolman, vice president, Delta Airlines; E. V. Rickenbacker, president, Eastern Air Lines; Paul F. Collins, president, Northeast Airlines; Franklin Gledhill, vice president, Pan American Airways; Harold J. Roig, president, Pan American Grace Airways; C. Bedell Monro, president, Pennsylvania-Central Airlines; Jack Frye, president, Transcontinental & Western Air; W. A. Patterson, president, United Air Lines.

Other members of the committee who were unable to attend the meeting are: T. E. Braniff, president, Braniff Airways; Carleton Putnam, president, Chicago and Southern Airlines; Stanley C. Kennedy, president, Hawaiian Airlines; G. T. Baker, president, National Airlines; Croil Hunter, president, Northwest Airlines; Leo H. Dwerlkotte, executive vice president, Western Air Lines and J. W. Miller, president, Mid-Continent Airlines.

National Aviation Elects F. F. Robinson President; Succeeds Frank F. Russell

Frederick F. Robinson, formerly vice president and secretary of National Aviation Corp., has been elected president of the firm to succeed Frank F. Russell, who had been on leave of absence as head of the National Aviation War Production Council until his recent election as head of Cerro de Pasco Copper Corp.

George A. West, treasurer of National Aviation, has been named secretary in addition to his present duties, and M. E. Tindall has been elected assistant treasurer.

Secretary Wallace Really Meant It!

Secretary of Commerce Henry A. Wallace (left) is greeted by Assistant Secretary of Commerce William A. Burden as Wallace steps from an Ercoupe at Washington National Airport after completing his first 45-minute flying lesson.

Secretary Wallace told a Congressional subcommittee last fortnight that he was so interested in aviation that he intended to take up private flying, then proved his pronouncement by beginning flying lessons.

Wallace's initial flights were taken in an Ercoupe at Washington Natiopal Airport under the instruction of Paul young, assistant chief of the CAA's general inspection division.

Young described Wallace as a normal student, who should solo after the usual five hours of instruction. Wallace spent 45 minutes in the air during his initial lesson, took the controls for the takeoff, flew the ship most of the time, and dined up for the landing.

William A. M. Burden, assistant Secretary of Commerce for Air, was an interested spectator during Wallace's initial flight lesson.

Charter Flight Rules

Use of gasoline for business charter flights is permitted under Government regulations.

The regulations specify that aviation gasoline may be used for pilot training; transportation of persons and cargo; maintenance of pilot skill, and aircraft and aircraft engine airworthiness; commercial flying including charter operations; crop dusting; aerial seeding; soil conservation; forest patrol; power and pipeline inspection; police missions; and similar essential activities, provided that gasoline shall not be used for barnstorming, sightseeing and pleasure flights, and similar non-essential activities.

18,656 Saleable Surplus Planes Acquired by RFC Through February 15th

Reconstruction Finance Corporation reports it has acquired 18,656 saleable aircraft, which cost the Government $206,700,000, through February 15 out of a total of surplus saleable property costing $606,003,000. Inventory of non-saleable property consisting of 13,165 aircraft of military and combat types is shown to have cost $640,236,000.

Since the non-saleable planes have been withdrawn from RFC's listing of acquisition costs, accurate comparisons with the totals as of January 31 are impossible. However, comparison of sales prices show that 94 cargo and transport planes had been sold on Feb. 15 for $506,000 compared to 58 on January 31 for $369,976. The number of sales of liaison planes has increased from 1,516 for $1,135,264 to 1,920 for $1,514,000; primary trainers from 543 for $707,943 to 976 for $1,145,000. No change was reported in the number of heavy trainers, fighters and bombers sold.

Final Vote on White Paper to Take Months

Commons Accepts Three-Company Policy as Basis for Legislation

By W. L. Russell

THE NEW AIR TRANSPORT policy for Great Britain, proposing to set up three corporations under close Government control for domestic and international services, was accepted as a basis for legislation by the House of Commons March 20 after long sessions of debate.

The White Paper was submitted to Parliament a week before by Lord Swinton, Minister for Civil Aviation, following months of preparation.

The House of Commons did not vote on the White Paper thereby accepting it but only as a basis for legislation, during the consideration of which there will be opposition. An initial bill already is in an advanced state of preparation. It gives the Minister for Civil Aviation necessary powers for the new post and then there will be another bill to make the White Paper a law. Although the government is anxious to act, the procedure will take several months. Because of this, British railroad and steamship interests are not expected to be qualified to have official representatives at the International Air Transport Operators' Conference in Havana next month.

During the debate, Sir Stafford Cripps, Minister for Aircraft Production, declared that Britain will attempt to write into the bi-lateral civil aviation agreements that she will negotiate with other countries the conditions of the Fifth Freedom which was rejected at the Chicago Conference. These conditions include the right to carry traffic between intermediate points on a trunk route.

The British air transport policy provides participation by three operating bodies—British Overseas Airways Corp., railways and steamship companies and travel agencies.

Managed by BOAC

One corporation managed by BOAC, with steamship companies invited to take part in providing capital and operating subsidiaries, would provide the Commonwealth routes together with the services to the United States and the Far East.

A second corporation to serve European air routes and internal routes of the United Kingdom would be a new company in which the shareholders would be BOAC, four British railway companies, shipping lines running to the Continent, travel agencies and prewar independent airlines.

The third operating body would be a recently formed company (British Latin American Air Lines Ltd.), owned by BOAC and the steamship lines operating to South America. It would be awarded services from Southern England to Portugal and Spain, thence to West Africa and South America.

The three operating bodies would be responsible for the management of their services, but the Government would approve their directors and retain a general control over broad aviation policy. The three units would join in the maintenance of a combined organization for overhauling their planes and for training their flying and technical staffs.

The White Paper, in explaining why the proposal for setting up a single chosen instrument such as BOAC was discarded, declared:

> "The Government is convinced that the policy of a single chosen instrument, whatever may have been its merits in the past, is unsuited to deal with the great expansion of the future. There must, therefore, be several air transport undertakings. A single entity, even if it could effectively include and use all the varied experience of aviation and transportation which it is necessary to bring in, would be too large and far-flung. Moreover, while it is clearly desirable to eliminate wasteful competition between British operators on the same route, it is none the less desirable both to avoid a sealed pattern of management and to encourage different managements to try out their own ideas. This would in no way prevent the constant pooling of experience."

Financially, BOAC would be expected to have a dominant interest in the lines to Asia, Dominions and the U. S., a substantial but less than majority interest in the European and domestic services and a still smaller share in the South American line.

Severely Criticized

At the final debate on the White Paper policy in the House of Commons Conservatives and Labor severely criticized the policy. The Conservatives warned that the policy would hamper enterprise and initiative, and one Labor spokesman said it embodies "stark reaction." Sir Stafford answered the criticism with the statement that the policy "does result in a political compromise, combining as it does a wide degree of Government control with a measure of independence to private enterprise.

Leslie Hore-Belisha, former Secretary of State for War, attacked the proposals and said that after the war, "the United States will be girdling the world with its aircraft." He maintained that Britain should establish an imperial tribunal modeled along the lines of the U. S. Civil Aeronautics Board "so that anyone who wished to run an airline could appear and state his case."

The opposition to the White Paper centered in the claim that the proposed authority was too rigid for an industry with as much promise for development as civil aviation and that the railway and steamship interests would not put their utmost into the development of a new form of transportation.

Before Lord Swinton left for South

(Turn to page 20)

Summary of Proposed British Policy

General Principles

"In determining policy the field of civil aviation must be viewed as a whole, and a plan, to be effective and practical, must cover all routes in which Great Britain is interested—Commonwealth, foreign and internal." In accordance with the proposals set out in the White Paper on International Air Transport based on "the fundamental principle of order in the air" it is held that national policy, too, "while it must stimulate and encourage development and initiative should do so within an ordered plan."

"Civil Aviation is essentially a transport business. Its problems are in many ways analogous to those of transport by land and by sea. To make our national air service effective we must . . . also make the fullest use of ripe experience and the world-wide organization which has been built up over many years by British enterprise and initiative in other forms of transport." At the same time no useful purpose would be served by attempting to retard or resrict new methods of carriage.

Air transport as a public service. There are services which are essential to the public interest but which offer little or no prospect of direct financial return. Under the conditions of unlimited competition by private operators, services would be concentrated on the more remunerative routes while it would be the taxpayer who would be compelled to support by subsidies, unrewarding, but no less essential, routes. It is the Government's plan to assure to all operators their exclusive rights to operate remunerative services within their allotted areas so that it will be fair to expect that they will accept the obligation to run unremunerative services as part of their overall commitment. It is not, however, intended to restrict the operation of charter aircraft.

Requisites of Organization

(a) The units must be large enough to operate economically but not so large or widespread as to preclude effective supervision along every route. (b) Each unit must have an efficient organization covering every area served by its airlines for the handling of traffic facilities in cooperation with other forms of transport. (c) Provision must be made for the economical use and maintenance of aircraft; for training and welfare of air crew and ground staff; for close cooperation between users and manufacturers in deciding types of aircraft to be used. The organization should also be capable of training crews of the Commonwealth and foreign countries, providing them, where required, with technical and operational help.

Size of units. "The Government is convinced that the policy of a single chosen instrument, whatever may have been its merits in the past, is unsuited to deal with the great expansion of the future. There must therefore be several air transport undertakings." While on the one hand it is clearly desirable to eliminate wasteful competition between British operators on the same route "it is nonetheless desirable both to avoid the sealed pattern of management and operation and to encourage different managements to try out their own ideas."

Civil aviation as a transport problem. British enterprises already engaged in other branches of transport and travel business, with their extensive organizations and connections at home and overseas, can with great economy of management be used to serve air transport equally with land and sea transport, thereby bringing a valuable contribution to the solution of the problems of air transport. "It is therefore of the essence of the Government's plan that British interests concerned in transport by sea and by land should be brought

into real and effective partnership with the organizations which will be responsible for transport by air."

Areas to be served by separate units. The Government has decided that the most efficient organization will be obtained by means of three main air transport corporations which will be responsible for air services in the following areas: (1) Commonwealth air routes together with Transatlantic service to the United States and services to China and the Far East; (2) European air routes and internal services of the United Kingdom; (3) South American route. The Government's decision to combine European air routes and internal services of the United Kingdom is based on the argument that "while the majority of continental services will focus on London, connections will be required from the outset with other centers of population in industry in the United Kingdom; and as air transport develops, services will run direct from some of these centers to the continent." By pooling arrangements, economic use of aircraft which will be equally suitable for both types of service will be greatly promoted.

Structure of Corporations

Commonwealth, Atlantic and Far Eastern services. These will be assigned to British Overseas Airways Corporation, which with its predecessor, Imperial Airways, has been largely responsible for the development and operation of these routes in the past. Furthermore, BOAC is in close relation with the corresponding Commonwealth services. As, however, a valuable contribution can be made by British shipping lines on many of these routes it is proposed that they shall be afforded the opportunity of becoming associated with BOAC in the operation of such routes. "It will probably be convenient in any case for BOAC to operate certain of these routes via subsidiary companies and . . . such a structure will clearly be desirable for those services on which British shipping lines participate. In any subsidiary companies the predominant financial and managerial interest will normally be held by BOAC but the shipping lines will at their own risk take a share in the capital and . . . be represented on the boards."

European and internal services. These will be assigned to a new company in which the participants will be railway companies (which have in the past successfully operated the great majority of the internal air services of the United Kingdom), short sea shipping lines (some of which have also been associated with air line operations in the past), travel agencies and BOAC. The Government has offered a small number of independent British operators who ran airlines before the war an opportunity of taking up shares in the new company on the same terms as the other participants, but this offer so far has not been accepted.

The right of the new corporation to run internal services within the United Kingdom will be exclusive. Its services to Europe will be run parallel, or it is hoped in some cases in conjunction, with the services of other European countries to the United Kingdom. Some services both in the United Kingdom and Europe which will be necessary in the public interest will be initially run at a loss; some may never show a profit. A comprehensive schedule of service will be arranged to serve the public interest as well as to fulfill purely commercial traffic needs.

By bringing into the corporation interests already concerned with land and sea travel, it will be possible to make arrangements for the inter-availability of tickets for different forms of transport on all stages of routes; for use of existing offices and agencies; and for the adjustment of times and frequencies of services to fit in with other forms of transport.

In view of the fact that European and internal air routes are likely to be more lucrative than some of the Commonwealth routes which are assigned to BOAC as the directing corporation, the Government think it right that BOAC should be given a substantial, though not a majority, financial interest in the new corporation.

South American services. These will be assigned to a new company in which the majority of participants will be those British shipping lines operating to South America which have associated together for this purpose as British Latin-American Airlines Limited. Here again it is proposed that BOAC should participate in the capital and management of the new corporation, but its share in the capital will be smaller than in the case of European and internal services. The shipping lines have expressed their willingness to risk their own capital in operating the route without subsidy.

Transfer of shares. Transport and travel organizations which have been invited by the Government to participate in the new plan are prepared to invest their own money without any Government guarantees. "They will take a permanent stake in the enterprise; and the Government have accordingly laid it down that there shall be no transfer of shares in the capital of new companies which are allotted to the participants. This will apply not only to the two new main air transport corporations, but also to subsidiary companies which may be formed by BOAC . . . and to any other subsidiary companies which may be formed by other main air transport corporations to operate particular services . . ."

Payment for good will. "His Majesty's Government does not regard anyone as having a vested interest in the air. Although new air transport corporations will be entitled to acquire at a fair valuation from the existing air line operators any physical assets which are needed for the new services, no allowance or issue of shares will be made to participants in respect of good will or 'development expenses' previously incurred."

Co-operation of Corporations

Aircraft and staff. The three corporations will join in the creation and management of combined organizations for the overhaul of aircraft and training of flying and technical staffs. Close relations will be maintained by the corporations with the Air Council via the Minister for Civil Aviation in order to give every possible opportunity to officers and men of the Royal Air Force to take service with the corporations. The terms of service in the corporation shall be those of a "model employer." Special provision shall be made by a suitable contributory scheme for pilots and air crews when they are past the flying age.

The relation of the Minister for Civil Aviation to the Air Transport Corporations. The Minister for Civil Aviation will appoint the members of BOAC and approve the appointment of its representatives on the Board of the other two corporations. The approval of the Minister will also be required to the appointments of directors on the Boards of the other two corporations; to representatives of shipping lines upon the Boards of the subsidiary companies of BOAC; and to memoranda and articles of association of all companies, main and subsidiary, concerned.

Once these have been established and approved "it is the cardinal principle of the plan that the corporations and companies should be responsible for the operation and management of air services under their control." At the same time the Minister must have general control over broad aviation policy. All companies must conform to the policy and agreement in the international sphere laid down by the Government. The corporations will not be entitled to cease operations on any of their scheduled routes without the consent of the Minister.

Subsidies. "The general policy of His Majesty's Government is that both internal and external air services should operate as far as possible without subsidy." Participants in the corporation which will be responsible for internal services are willing to run their agreed schedule of routes without subsidy.

In the field of international services the Government had hoped to secure by multilateral convention the elimination of uneconomic competition, with a view to the control and ultimate abolition of subsidies, on lines laid down in the White Paper on International Air Transport, later expounded at Chicago. This proved impossible but the Government's policy will still be based on the principles contained in the White Paper. "In any reciprocal arrangements which they make with foreign countries, the Government will stipulate for a reasonable application of these principles. In this way it is hoped that wasteful competition and subsidies may be largely eliminated upon international routes wherein Great Britain is interested." Provided that essential services are not faced with highly subsidized competition, European and Latin American services will not be subsidized.

Routes on Commonwealth services essential in the interests of Commonwealth communications may be subsidized. The Government will be prepared to give temporary financial assistance to the corporation concerned for the operation of any new route not in the agreed schedule which it may require that corporation to undertake.

Co-operation with Commonwealth

Commonwealth routes will be operated in full co-operation with the countries of the British Commonwealth, and reciprocal services from the Commonwealth countries to the United Kingdom will be run parallel with those of the United Kingdom to them. Provision will be made for the use of aircraft and facilities along these routes to ensure economical operation, and for the equitable division of revenue and expenditure. These arrangements will not exclude but facilitate the "ultimate conversion of parallel operation into joint operation whenever and wherever the Governments concerned agree that this has become desirable." Parallel operation will probably also prevail in the initial phase with regard to foreign operators running services to the United Kingdom, but the possibility of running joint services via subsidiary companies in which a foreign operator would participate is contemplated. It is hoped that combined training and aircraft overhaul establishments, which will be set up in the United Kingdom, may prove of use to Commonwealth and foreign operators.

Provision of Aircraft. It is the intention of the Government as of the corporations themselves that the latter shall use British aircraft as soon as possible. Orders have already been placed for a number of types by the Ministry of Aircraft Production in collaboration with the Brabazon Committee. In time of war the Government must place orders for civil aircraft because they must control the allocation of aircraft as between civil and service aviation. But there must be close collaboration between the department responsible for placing orders, the user, and the producer. Arrangements have been made to bring the new corporations into such a relationship with the aircraft manufacturers and Government departments concerned. In initial stages the Government will lease the aircraft they have ordered to the corporation.

"In framing its air transport policy the Government has sought to apply to the development and expansion of our own air services those principles of ordered progress which they have advocated in the international sphere . . . in this way the Government believes it can best 'meet the needs of the peoples of the world for safe, regular, efficient, economical air transport', and enable British civil aviation, which has had to be subordinated to the supreme war effort, to take its rightful place on the airways of the world."

Navy's Secretary for Air Advanced in Authority

The President has issued an executive order changing the succession of authority in the Navy Department to place the Assistant Secretary of the Navy for Air ahead of the Assistant Secretary. The Navy Department said, however, that the change is temporary, brought about to preserve seniority, since Artemus L. Gates, Assistant Secretary for Air, has had longer experience with the department than H. Struve Hensel, the newly appointed Assistant Secretary.

White Paper

(Continued from page 18)

Africa he defended the White Paper in a four-hour debate. He declared that aircraft especially designed for competition on the commercial routes of the world, now being built in British plants, will be delivered within three months.

Lord Knollys, chairman of BOAC, broke a family silence in the House of Lords that has endured through two generations when he endorsed the program as a reasonable and workable plan. For BOAC he welcomed the partnership of other forms of transport and the opportunity to benefit from their experience.

Enactment of enabling legislation to implement the White Paper policy is necessary before it can be put into operation.

Warner Delivers 6 Lectures At Princeton University

Edward Warner, vice chairman of the Civil Aeronautics Board, delivered a series of six lectures at Princeton University last fortnight. His general subject was "What Airplanes Can Do." He spoke on the public lecture foundation created by Louis Clark Vanuxem for the dissemination of information of current scientific interest.

Warner devoted his opening lecture to considerations of basic concepts of air transportation. The second and third lectures covered airplane performance and possibilities of air transportation. The concluding three lectures covered "Importance of Weight in Aircraft Design," "Economics of Air Transportation," and "The American Air Transportation System."

Vets Trained at Cleveland

A number of war veterans eligible to receive free training by the Government in aviation mechanics are being trained at the Aviation Mechanics School of General Airmotive Corp. on the Municipal Airport at Cleveland.

Allin Joins Consultants

Col. B. C. Allin has resigned as director of the Greater Miami Port Authority to join Airways Engineering Consultants, Inc., of Washington, as a vice president and to be in charge of the company's business in the West Coast area. His headquarters will be in Berkeley, Cal.

Motor Contract Transferred

A contract under which the Ford Motor Co. was to have manufactured $50,000,000 worth of R-2800-C Pratt & Whitney aircraft engines has been cancelled. The project will be handled by the Chevrolet Division of General Motors Corp., which already is making the "C" type engines. The Ford company has received an $18,000,000 contract for additional "B" type engines. Reason for the change in plans on production of the "C" engines was given as the fact that Chevrolet already is tooled for the job.

Wallace Foresees Many Jobs In Civil Aviation After 'V'

Endorses Federal Aid For Airports Before Senate Subcommittee

By GERARD B. DOBBEN

A PARADE of witnesses, all of whom endorsed some type of Federal-aid airport legislation, appeared before the Senate Commerce Aviation subcommittee during the past two weeks. They were led by Henry A. Wallace, newly appointed Secretary of Commerce, who told the committee of his sincere interest in the future of aviation.

The Aviation subcommittee, headed by Sen. Josiah W. Bailey (D., N. C.) has under consideration the drafting of a committee bill which will attempt to reconcile some of the differences brought out by witnesses at the hearing.

No Endorsements of Bills

Department witnesses generally shied away from endorsing either the McCarran bill (S. 2) or the Bailey bill (S. 34) although T. P. Wright, Administrator of the Civil Aeronautics Administration, said that the Bailey measure, with its division of jurisdictional responsibility, would entail fewer administrative problems for his department. Under the Bailey bill, Class IV airports, and larger, would be handled as federal-city projects while the smaller airports would be handled on a federal-state basis.

Secretary Wallace told the committee that he felt that civil aviation will be a most important factor in the postwar drive for economic expansion and full employment. The 19 billion dollar aircraft industry, employing 1,700,000 workers, must, like all munitions industries, undergo very drastic deflation, he observed.

"The shock of that deflation can be eased and the industry started on an upward trend if we act promptly to utilize for constructive civil purposes the vast store of pent-up technical knowledge developed by the war," Wallace stated. "If we develop a sound program for civil aviation development, we can achieve in the first postwar decade a healthy aircraft industry several times its pre-war size—large enough in fact to make it a real contribution to our national economy."

Wallace predicted that two years after the defeat of Japan civil aviation might be able to furnish employment to from 100,000 to 150,000 persons. Eight to 10 years after the war, this figure might well be increased to 400,000 workers directly or indirectly employed in civil aviation, he predicted.

After expressing faith that the aircraft industry, with its "customary resourcefulness," would work toward this expansion, Wallace said its efforts would have to be supported by a strong civil aviation program. The rate of growth of private flying, he said, can be affected greatly by government policy.

"No one knows exactly how rapidly the utility of the airplane to the private flyer will increase, but there is no question but that its widespread acceptance cannot be accomplished without a great improvement in our nation's system of airports. That improvement can only be achieved on a sound and orderly basis by sound Federal-aid airport legislation," the Secretary said.

William A. M. Burden, assistant secretary of Commerce-Air, followed Wallace in support of a Federal-aid program. He briefly reviewed the history of government participation in the development of transportation facilities through improvement to rivers and harbors, through land grants and rights of way to the railroads and through the Federal-aid highway program. The automobile industry, he pointed out, did not show its remarkable growth until good roads were available.

"The airplane is unique in that it is completely universal. It performs more functions than any other transport vehicle ever invented," Burden said. "The great 100-150 passenger trans-oceanic air liner is comparable to express steamships such as the Queen Mary or the Normandie. The 40-60 passenger domestic trunk-line transport is comparable to the express train, the 15-20 passenger feeder-line transport to the highway bus, the 4-6 passenger charter plane to the taxi, and the 2-4 passenger personal plane to the privately owned passenger car.

"The multitudinous types of service rendered by these widely differing types of airplanes cannot exist without well-designed, conveniently located airports. They are the foundation upon which the entire structure of American civil aeronautics must be erected."

Burden said that on the basis of 4-000,000 air passengers carried in the U. S. in 1941, it is estimated that some 100,000,000 persons will travel by air in the next eight years. Hundreds of thousands will travel by personal plane, he added.

Planes Needed for Security

Administrator Wright, the third witness, emphasized that the country needs thousands of personal planes to keep the aircraft industry alive, with one of the prime considerations involved hinging about the industry's importance to the nation's security. Only through a national system of airports could be created the demand for personal planes Wright stated. He emphasized that this program should be started in the near future so that the pent-up enthusiasm for civil aviation, created largely by the war but held back by the same instrumentality might be turned into a real contribution toward the nation's peacetime economy.

"The CAA National Airport Plan would increase the number of this country's airports from 3,000 to 6,000 and provide improvements to 1,600 of those now in existence," Wright stated. "The program envisages an orderly, rather than a spotted, development."

John B. Bayard, Jr., of the CAA Airport section, told the committee that as high as 60 percent of the made-work airport development expenditures in the de-

pression era had been lost due to a variety of reasons. Bayard and Charles Donaldson, chief of CAA's Airport section, introduced a number of charts which had been prepared in connection with the need for a Federal-aid airport program.

Bayard introduced into the record tables showing Federal and State expenditures on airports to date. They are shown below:

ESTIMATED ANNUAL CAPITAL EXPENDITURE FOR CIVIL AIRPORTS BY SOURCE OF FUNDS

Year	Federal Funds	State Funds	Municipal Funds	Commercial & Private Funds	Total Expenditures
Prior to 1933	$1,094,328	$2,905,869	$69,664,517	$72,646,799	$146,311,513
1933	18,290,000	550,000	5,530,000	665,000	25,035,000
1934	18,290,000	550,000	5,530,000	665,000	25,035,000
1935	18,290,000	550,000	5,530,000	665,000	25,035,000
1936	18,290,000	550,000	5,530,000	665,000	25,035,000
1937	18,295,786	552,491	5,537,780	665,592	25,051,649
1938	46,476,164	890,697	4,136,935	3,236,153	54,739,949
1939	28,435,000	250,000	16,930,000	820,000	46,435,000
1940	28,440,508	250,000	16,934,261	820,436	46,445,205
1941	136,200,000	776,000	14,406,000	700,000	152,082,000
1942	136,200,000	776,000	14,406,000	650,000	152,032,000
1943	136,200,000	776,000	14,406,000	600,000	151,982,000
1944	136,203,385*	778,208*	14,408,507*	550,000*	151,940,100*
Total	$740,705,171	$10,155,265	$192,950,000	$83,348,980	$1,027,159,416

ESTIMATED MILITARY AND NAVAL CONSTRUCTION 1940-1944

Service	Total	Airports	Buildings & Utilities	Number of Airports Owned	Occupied	Total
Army	$3,010,561,640	$1,036,853,880	$1,973,707,760	315	301	616
Navy	227,965,000	75,988,000	151,977,000	276	94	370
	$3,238,526,640	$1,112,841,880	$2,025,684,760	591	395	986

** These were estimated expenditures for 1944, not fully realized because of war interferences.*

FEDERAL AIRPORT CONSTRUCTION PROGRAMS TO END OF 1944

	New	Improved	Total	Expenditures
Civil Works Administration	566	386	952	$11,503,267
Federal Emergency Relief Administration	55	888	943	16,239,554
Public Works Administration	...	35	35	14,773,060
Works Projects Administration	197	367	564	331,089,971*
Civil Aeronautics Administration	248	287	535	320,192,965†
	1,066	1,928	2,994	$679,025,777

** Number of locations to June 30, 1940*
† To December 31, 1944

C-97 For Paratroops?

A letter to a Boeing-Wichita employe from his service man son reveals that the Boeing C-97 troop and cargo transport version of the B-29 was looked over by the Airborne Troop Carrier Command at an East Coast base following its record breaking flight from Seattle to Washington. The soldier, who is an instructor at an infantry parachute training center, wrote that he himself had made jumps from the plane, and commented:

"It was a real ship and surely suits we paratroopers."

'Mickeys' on B-29s

Several thousand B-17 and B-29 bombers have been equipped with the "Mickey", a radar search device which makes it possible for them to bomb accurately through cloud cover and spot surfaced submarines at night, by the Continental Air Lines modification center in Denver, that company has announced. The Continental modification center was the first in the United States to install the "Mickey" on four-engined bombers.

Monro Takes Miller's Place As Vice President of ATA

J. W. Miller, president of Mid-Continent Airlines, has resigned as vice president of the Air Transport Association. He has been replaced by C. Bedell Monro, president of Pennsylvania - Central Airlines.

Monro

S. G. Tipton, acting head of ATA, said that Miller's resignation was voluntary and was submitted to save time in the transmission of ATA matters to Kansas City. The situation is a temporary one, Tipton explained, brought about by the necessity of having a vice president located closer to Washington to conduct ATA business. Monro will serve for the balance of 1945.

Airlines Loan 3 Engineers To Aeronautical Radio

Furtney

Osborn

Expanding both its facilities and its personnel to accommodate greatly increased 1945 activities, Aeronautical Radio, Inc., has moved its headquarters to new and larger offices at 1108 Sixteenth St., Washington 6, D. C. Three new engineers, obtained on loan from member airlines, have been added to the staff, and George H. Osborn, communications engineer since June 15, 1944, has been advanced to assistant to Gordon A. O'Reilly, newly appointed vice president and general manager (*American Aviation*, March 15).

New additions to the Arinc staff include George W. Furtney, for a number of years supervisor of ground equipment for Eastern Air Lines who has been obtained for an indefinite period to serve as ground station engineer; William F. Richter, also from Eastern Air Lines, and William C. Wray, from United Air Lines. Richter will assist with the installation and consolidation of of the Boston station which Arinc will operate on a trial basis supplying communications service to all airlines, and Wray will assist with the Toledo station, likewise to be operated on a trial consolidated basis, as well as with Boston and other general assignments in connection with ground station operations.

Wray

CAA Contract Termination Group Saves $4500 Flying Lightplane on Assignment

The CAA announces that it has demonstrated the practicability of utilizing private aircraft from the standpoint of savings in time and money in business travel. The demonstration was made in connection with its contract termination program, under which four members of the CAA's contract termination board made 63 stops in 108 days.

On that assignment, CAA said, more than $4500 in fares, subsistence and salary were saved by use of a government-owned airplane. Actual travel time was less than 103 hours by air, compared with more than 609 which would have been required by rail. The best possible time by rail would have been 146 days.

U.S. World Air Policy Being Shaped in Senate

Hearings Expected to Cause Delays, However, In Closing Agreements

UNITED STATES International aviation policy is now undergoing open hearings in the U. S. Senate and, for the first time, the people of this country are being given an opportunity to voice openly, before appropriate legislative committees, their views on several important policy questions, including the proposal that this country should operate a single company in postwar international air commerce.

The hearings undoubtedly will cause some embarrassing delays in U. S. plans to get its international air commerce agreements signed and in effect. This will be especially true with reference to the so-called Interim agreements growing out of the International Civil Air Conference in Chicago, which, along with the treaty itself, are being studied by a subcommittee of the Senate Foreign Relations committee.

Pending before the Foreign Relations committee is a resolution by Sen. Wallace H. White, Jr. (R., Me.) which seeks to have the State department notify foreign countries that the Senate has a treaty pending and under consideration, and asks the State department to withdraw the acceptances already made until the broader question of policy is determined. While the best legal minds feel that the State department is well within its rights in negotiating the executive agreements which set up the temporary and technical international organizations under the terms of the Chicago conference, the legislative processes now in operation are bound to delay the State department in getting a clear-cut order to "go ahead."

W. L. Clayton, assistant secretary of the State-Air, told the Senate Foreign Relations subcommittee considering the International Civil Aviation treaty that Title II, the convention itself, is a document independent of all other agreements drawn up at the Chicago Air Conference and should be passed upon its own merits.

Modernized Rules Set Forth

"The International Civil Aviation Convention sets forth modernized basic regulations governing international civil aviation," Clayton told the committee headed by Senator George. "It covers the air transport, air navigation and technical phases of aviation, and establishes a basis for common air practice throughout the world. It sets up an International Civil Aviation organization on a truly world-wide basis. This body consists of an assembly representing all State parties to the Convention, as well as a 21-member council, which will have advisory and technical functions, but which is not empowered to regulate the economic aspects of international air transportation.

"The fundamental improvement which the Chicago Aviation Convention makes is the replacement of the international aviation convention adopted at Paris in 1919 and the international aviation convention adopted at Havana in 1928 by a single modernized convention. This makes it possible to bring about the adoption and application of international rules and standards on a more universal basis than has heretofore been accomplished," Clayton declared. He also stated that the treaty, because of its provisions for full publicity of bi-lateral agreements, would end the era of secret diplomacy in the air.

"In view of the increasing speed of aircraft and their ability to fly over the territories of many countries in a single flight, international air navigation can be greatly impeded by divergencies between the rules and standards of flight arising out of different international conventions. Furthermore, the experience of the last few years has emphasized the importance of bringing air navigation regulations up to date," Clayton stated.

Corrective Steps Taken

After reviewing the confusion that exists over the fact that in the Western hemisphere, European possessions operate under the terms of the Paris convention while the U. S. and many Latin America countries adhere to the terms of the Havana convention, Clayton said the framers of the Chicago Aviation Convention had the ambiguities of the Paris and Havana conventions in mind and took immediate steps to correct them.

"The delegates at the Chicago conference clarified the situation by definitely providing in Article 5 that aircraft of a contracting State not engaged in scheduled international air services shall have the definite right of entry into or transit through the territory of other contracting States subject to certain reasonable limitations and conditions which are fully explained in Article 5. As to the entry of international scheduled lines the Chicago convention leaves no doubt as to what the delegates to the Chicago Conference had in mind, since Article 6 is very specific and definitely provides that no scheduled international air service may be operated over or into the territory of a contracting State except with the special permission or authorization of that State, and in accordance with the terms of such permission or authorization," Clayton stated.

Stokeley Morgan, of the Department's Aviation section explained how the various annexes may go into effect after the interim temporary organization has been ratified by 26 States. These are the bilateral agreements between member States based on reciprocal operating rights. Title IV would include the so-called "Five Freedoms of the Air." To a question of Sen. Wallace H. White (R., Me.) Morgan said that two countries could sign bilateral agreements now which would have force and effect but that they could not actually start air commerce operations until the Interim Agreement (Title I) had been ratified by the required number of States. The Interim Agreement will remain in effect only until 26 States have signed the Convention or for not more than for three years after the Interim Agreement goes into effect, Morgan explained.

The Senate Commerce Aviation subcommittee had started its hearings on international aviation policy with the appearance of Sen. Pat McCarran (D., Nev.) in support of his bill S. 326 which would create the All American Flag Line Inc. The fact that the Senate was considering legislation which would change the basic concepts of the Civil Aeronautics Act raised the question of whether the Civil Aeronautics Board could properly go ahead with announcing decisions in international route cases based on the competitive theory laid down in the Act. One observer pointed out that the Civil Aeronautics Act was still in effect and the injunction to the Board to develop this country's air transportation both home and abroad along competitive lines has never been abrogated.

The Commerce committee hearings on the All American Flag Line bill promised to attract the best minds in the industry. Among these on the side of the Community company idea would be Juan T. Trippe, president of Pan American Airways, Inc. and W. A. Patterson, president of United AirLines, Inc. On the other side was expected to be Ralph S. Damon, vice president and general manager of American Airlines, Inc.; E. V. Rickenbacker, president of Eastern Air Lines, Inc. and Alex Royce, chairman of the Airlines Postwar Policy Committee.

In his statement before the committee, Sen. McCarran asserted that it was his belief that the All American Airline Inc. with all existing American air carriers participating in its management and direction, and sharing in its profits, will mean unprecedented growth for American aviation and new prosperity for the domestic air lines of this country. This single company, he said, would give this nation the "inside track" to the commerce and industry which world-wide transportation is certain to develop.

Foreign Competition Threat

The Nevada Senator held up the threat of active competition from foreign nations as one of the basic reasons why this country should operate a single international company in the postwar era.

"Creation of this corporation would effect a pooling of all the resources, both domestic and foreign, of the air transport industry, to forge a new agency able to make the commerce of the United States first in the air all over the world," McCarran stated. "This new agency would have back of it not only the full strength of this unity of all factions of the air transport industry . . . but also all available facilities of the government of the U. S., to enable it to carry out the purpose for which it is being created."

McCarran said this corporation would

Ryan Tax Group Meets With CAB to Shape Up Report Due Congress

The CAB's special advisory committee on multiple airline taxation met with the Board in Washington March 22, 23 and 24. CAB Member Oswald Ryan is head of the group. The first day's session was devoted to conferences with the CAB staff, and the remaining two days was spent with the Board in shaping up its final recommendations to Congress. The report to Congress is due April 3.

have active partners operating throughout the United States to funnel international business into designated points of entry or departure. Likewise, he said, these interstate air carriers partners would pick up and disperse throughout the United States the international air traffic which is brought to our shores by the All American Flag Line, or by any foreign air carriers. McCarran said he felt this offered an unbeatable combination.

"Remember, the pace of the world is geared to transportation and aviation is the instrumentality which will set the pace in the foreign trade and passenger field after the war. We cannot afford to come out second best in the race for air commerce in the markets of the world. That is why this bill proposes to put the entire facilities of the air-Transport industry and the full weight of the government of the United States back of the All-American Flag Line," he stated.

McCarran sees in the Air Transport Command of the War department a much greater threat to private enterprise than the All American Flag Line if the Army continues in civil operations after the war. He denied that his bill would create a "Chosen Instrument" in the usual accepted meaning of the term. Nor would it be a monopoly, for it would have to meet the competition of foreign airlines in prices and service, he said. At most he stated it would be a monopoly of operation; clearly it would not be a monopoly of control.

20 Airlines to Share

McCarran said that at present Pan American Airways has a virtual monopoly on international air transportation under the American flag but that under his bill provides that international air transportation, with the profits therefrom, shall be shared by 20 different airlines.

"Instead of owning 90 or 95% of the entire system, Pan American airways would not be able to own more than 25%," he stated.

The Senator explained the technical phases of his bill, section by section, after asserting that the phrase "Controlled Competition," used by advocates of the competitive theory, is a catch phrase, for it does not mean competition at all but rather regional monopolies.

McCarran explained the very definite trend among foreign countries toward the single company idea. He went into the history of these transitions from multi to single company operations in considerable detail and then interpreted the British White Paper as further proof of England's plans to operate three companies under government control but all three to be dominated by British Overseas Airways Corp.

"Lord Swinton will continue to appoint directors of BOAC, and will also approve representatives named to the Boards of the other two companies. That means unified control," McCarran stated.

McCarran charged the State department with use of weasel words in its report on the McCarran Bill S. 326. He referred to the State department statement that certain countries followed the policy of regulated competition "but this principle was not extended by all of these countries to their international operations." McCarran said the implication was that some of these countries did follow the regulated competition theory in foreign operations and he added, "As far as I know, none of them did."

$5,755,522 Increase for CAA In Commerce Appropriation

THE Department of Commerce 1946 Appropriation bill, which passed the House Mar. 19, provides a $5,755,522 increase for the Civil Aeronautics Administration over 1945 appropriations with a considerable amount of the extra funds dedicated to the establishment of new technical aids to aviation.

Similarly, large sums from the $79,372,000 appropriation for the U. S. Weather Bureau will go directly into projects designed to contribute to the safety of air transportation. Included in the Weather Bureau's appropriation is $10,000 for the start of an "In-Flight" weather reporting service at the Washington National Airport, part of a proposed $500,000 program which is designed to correct deficiencies in weather information above 10,000 feet levers.

Under this program, airline pilots will report, over their company radios, any sudden or unusual changes in the weather as observed in flight. This information will be immediately transmitted by airline station employes to the U. S. Weather bureau at the airport, where it will be plotted and digested and then, through use of facsimile machines, the information will be sent to all U. S. weather stations for transmittal in turn to succeeding airline flights.

Dr. Francis W. Reichelderfer, chief of the Bureau, testified during hearings on the bill that the Bureau intended to install five additional Radiosondes. There are at present 48 radiosonde stations in the U. S. and their function is to give weather conditions above 10,000 feet.

The Appropriations Committee eliminated from CAA estimates a $2,900,000 item for two seadrome weather reporting stations on the route between New York, Bermuda, the Azores and Portugal. It was planned to take care of a third spot by two ships, which in addition to reporting on the weather, would service the fixed stations and make possible relieving of personnel.

In the bill is $9,400,000 for air-navigation facilities, including the equipment of additional civil airways for day and night flying; the construction of additional necessary lighting, radio, and other sig-

American Aviation Photo

Henry A. Wallace, newly appointed Secretary of Commerce, is shown testifying before the Senate Commerce Aviation subcommittee in support of Federal-aid airport legislation. This was one of Secretary Wallace's first official appearances as the new head of the Department of Commerce. Reading from left to right are: Sen. Josiah W. Bailey (D., N. C.) chairman of the committee; T. P. Wright, CAA Administrator, Wallace; Sen. Theodore G. Bilbo (D., Miss.); William A. M. Burden, assistant secretary of Commerce-Air; and Sen. Pat McCarran (D., Nev.).

Stinson

—tuning up for an important take-off

PIONEERING When the first Stinson plane took to the air, back in 1926, it was a plane ahead of its day.

The world had never before seen a plane that combined in its design an enclosed cabin, wheel brakes, electric starter, and a cabin heater.

Into this new plane "Eddie" Stinson had also built another important "first"—an inherent stability that has been a characteristic of every Stinson plane built in the intervening years.

Constant improvements in design and performance have enabled Stinson planes to show an enviable record of performance in the 19 years of Stinson history.

Stinson "Firsts"

FIRST to fly from Detroit to Tokyo.
FIRST to fly from New York to Bermuda.
FIRST to carry government air mail in China.
FIRST to carry government mail in Mexico . . . and in the Philippines.
FIRST to explore the Greenland route to Europe, the present-day route of the North Atlantic Air Ferry.
FIRST to provide air-mail pick-up service.

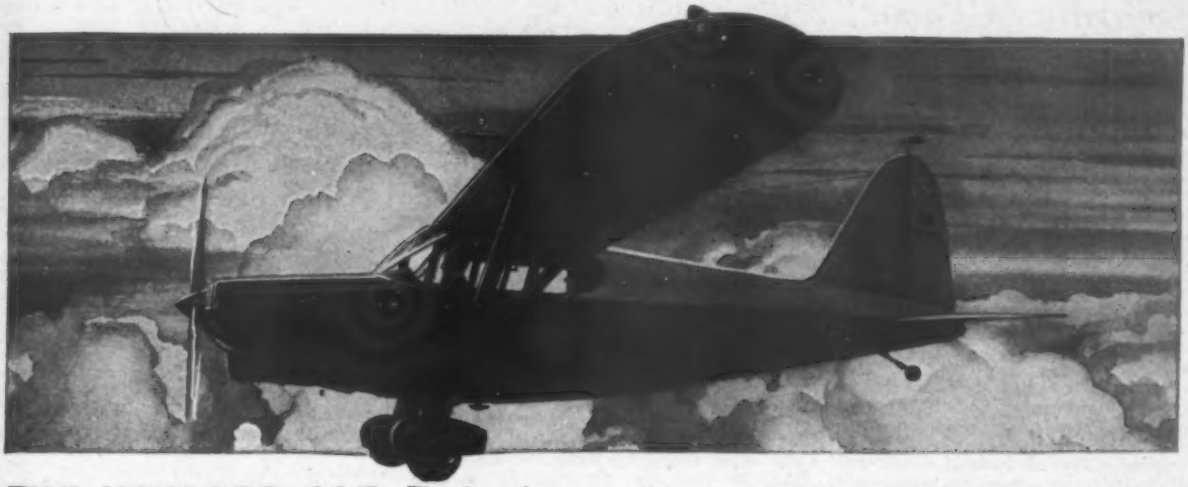
PROVED IN WAR On fighting fronts around the globe, liaison planes built by Stinson are again proving their utility and reliability—this time under the toughest flying conditions ever met by planes of this size and power.

Marines call for "air eyes" to help them push forward on a hard-won beachhead. So a Stinson "Flying Jeep"—the Sentinel L-5—scurries across the deck of a carrier to take the air and land in the midst of battle on a shell-pitted air-strip.

Medical corpsmen urgently need transportation for desperately wounded men lying in a field rimmed by mortar fire. And Stinson "Flying Jeeps" land alongside to take them swiftly and surely to the rear.

Here at home, another Stinson plane—the Voyager—has carried out 65 per cent of the operations of the Civil Air Patrol. CAA records show that the Stinson Voyager is the safest personal plane ever produced in quantity.

The Stinson Reliant AT-19 is widely used by the British as a navigational trainer. And almost every airline in the United States uses Stinson planes to train and check their pilots.



THE VOYAGER 125

The first plane designed by Stinson for future mass production is the Voyager 125.

The Voyager 125 is a product of Stinson engineering, designing, and production skill gained in our 19 years of experience in building quality personal planes—first for safe peacetime flying and then for tough battle flying.

The Stinson Voyager 125 is a family plane that carries the pilot and three passengers, with plenty of luggage space beneath the back seat. Powered by a 125-h.p. engine, it has a cruising range of 480 miles, a rate of climb of 700 feet per minute at sea level, and service ceiling of 14,000 feet. It has a maximum speed of 128 m.p.h. and cruises at 115 m.p.h. at 80 per cent power. It takes off, with flaps down, after a run of 545 feet, lands with a roll of 265 feet.

We welcome inquiries about the Stinson Voyager 125 and about our plans. The Voyager 125 will be coming off the assembly line 90 days after the time when the necessity no longer exists for allocation of all manufacturing facilities to production of airplanes for the Armed Services. Write to *Private Sales Director, Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Michigan.*

Here's news for owners of Stinson planes

You can obtain parts for your Stinson plane through your local Stinson Distributor, or direct from the factory. Stinson service will help keep your plane in the air!

Stinson

The Aircraft Standard of the World

DIVISION—CONSOLIDATED VULTEE AIRCRAFT CORPORATION
WAYNE, MICHIGAN

naling and communicating structures and apparatus. A considerable portion of these funds will be used in installing the VHF radio ranges over the civil airways.

The total CAA budget is $41,537,000. The Weather Bureau is to receive $79,372,000—a decrease of $1,701,151—under the terms of the bill now before the House. CAB would receive $1,700,000 or an increase of $174,777.

LaGuardia in Favor Of McCarran Billion Dollar Airport Bill

Strict government control of the Federal-aid airport development program to avoid chaos in air commerce recently was urged before the Senate Commerce Aviation subcommittee by Mayor LaGuardia of New York City as a witness for the U. S. Conference of Mayors. LaGuardia endorsed generally the provisions of the McCarran billion dollar airport bill (S. 2) because it offers wider latitude for cities to deal directly with the Federal government.

"If it is the desire of states to control in any way the proposed Federal program covering the Urban program as defined in either S. 2 or S. 34, then the States should be required to match Federal funds, out of state-collected revenues for such projects," LaGuardia told the committee. "I assure you a number of cities would be very happy to turn over their airports to their state governments and thus relieve their taxpayers of the financial burden of carrying the city share of airport development under any Federal program."

LaGuardia revealed that the New York airport, named for him, had received some 22 million dollars under Works Progress Administration funds of a total of 44 millions that had been spent. When Sen. Owen R. Brewster (R., Me.) asked whether the proposed new allocation of airport funds should take into consideration Federal monies already received, LaGuardia said: "Certainly not. That is all passed."

Detroit Needs Super Airport

Mayor E. J. Jeffries of Detroit told the committee that neither bill would provide sufficient Federal funds for construction of the kind of airports that will be needed in postwar days of heavy trans-continental and international air traffic. He said Detroit estimates that it will cost $20,000,000 to build just one airport of sufficient size to accommodate Detroit's postwar international and interstate traffic.

"The cities are no longer in a position to subsidize the air industry," Jeffries said. He said he was not sure just how much money the Federal government should put into this program.

"I think a distinction should be made between the fundamental transportation system of the country—airfields used by the great cargo transports and passenger ships—and the smaller fields used for a hobby, sport, or pastime," Jeffries said. He said he felt it would be going far afield to ask the government to build a golf course or a swimming pool at the country club for the use of a relatively small number of citizens.

Sen. Pat McCarran (D., Nev.) appeared before the committee to urge immediate action on the Federal airport bills. He said he favored the five-year plan for spending one billion dollars because it would contribute a greater spark to an industry that promised to show a tremendous postwar growth if airport facilities are made available. McCarran's bill provides for strong central control, under the Civil Aeronautics Administrator, with cities proposing third class ports, and larger, dealing directly with the Federal government.

Hearings on Aviation Bills Postponed By House Group Until After Easter

HEARINGS on aviation bills before the Interstate and Foreign Commerce committee of the House probably will not get underway until after the Easter recess, which would end, on the basis of present predictions, around April 20.

Meanwhile new aviation bills were being introduced at regular intervals, all of which will contribute to one of the busiest aviation calendars ever to face the aviation committees of Congress.

One of the more important bills was introduced by Rep. Jennings Randolph (D., W. Va.) which confers jurisdiction upon the Court of Claims and the district courts of the United States of claims for damages resulting from the operation of aircraft by or for the United States. This bill H.R. 2537 was referred to the Committee on the Judiciary. Heretofore a claimant, suffering damage from an aircraft operated by the government, has been limited to $1,000 damages in the Court of Claims. Under the proposed legislation, the basis for the amount that could be recovered would be the same standards as now apply in personal damage suits between individuals, and the time limit would be increased six years from the time that the right to sue accrues.

Sen. E. V. Robertson (R., Wyo.) introduced S. 744 which provides the sale or serving of alcoholic beverages on transport planes. Sale or carrying of alcoholic beverages on planes is now prohibited by regulations of the Civil Aeronautics Administration.

A bill, H.R 2608 by Rep. C. M. Bailey (D., W. Va.) would establish a Model Aircraft Division in the Civil Aeronautics Administration. It was referred to Interstate and Foreign Commerce.

To the Naval Affairs committee went a bill (H.R. 2555) by Rep. Lansdale G. Sasscer (D., Md.) which provides disability or death compensation or pension in the case of certain members of the Naval Enlisted Reserve who received Civil Aeronautics Administration war training prior to Dec. 15, 1942.

Sen. Pat McCarran (D., Nev.) introduced a bill (S. 739) which would amend the law relating to embezzlement by officers of a carrier firm, association or corporation engaged in Commerce which was referred to the Judiciary committee

Other bills, affecting the aviation industry indirectly, were introduced by Rep. Robert L. Doughton (D., N. C.) and Rep. Gordon L. McDonough (R., Calif.). The Doughton bill H.R. 2628 would extend the life of the Renegotiation Act through Dec. 31, 1945. This went to the Committee on Ways and Means. The McDonough bill (H.R. 2649) would prevent the further disposition of war plants which cost the government $1,000,000 or more without specific authority from Congress. Under the present Surplus Property Act, the limitation of Congressional approval had been placed at $5,000,000 with amounts under that figure under jurisdiction of the Department of Justice

Hollywood Producer Flies 3,000 Miles to Testify In Senate 10 Minutes

A motion picture producer who picks movie locations from the air flew his Waco 3,000 miles to appear for 10 minutes before the Senate Commerce Aviation subcommittee in support of the Federal-Air airport bills.

Henry King, 20th Century Fox producer, from Hollywood, appearing as a witness for the National Aeronautic Association of which he is a member, said every city must have an airport or there will be no great aviation industry. He maintained that if this country has sufficient airports, the airplane will become as much a necessity as the automobile.

King told of flying, in a few hours, over hundred of miles along the Susquehanna and Hudson rivers to successfully locate a suitable spot for a movie setting and emphasized that when there are adequate airports, business men will more and more turn to the private plane as a medium for business travel.

FDR Asks Reduced Budget

President Roosevelt has asked Congress for a 1946 fiscal year budget of $23,719,153,050 for the Navy, representing a reduction of more than $4,000,000,000 for the current fiscal year. The White House said one of the principal reductions was about $2,000,000,000 in previous estimates of the cost of the Navy's airplane program. The President also submitted a request for additional contracts authorizations of $3,088,012,624. About half or $1,513,012,624 would be new authorizations, with the balance being continued from the current fiscal year.

EAL Hold 1,000 Jobs Open For Vets With Amputations

One thousand jobs for veterans with amputations are available immediately with Eastern Air Lines, Capt. E. V. Rickenbacker, president, announces. The loss of a hand, arm or leg, even two arms or legs, will be no bar, he told patients at Lawson General Hospital in Atlanta. He said they are eligible for "countless jobs" as reservation clerks, ticket sellers, weather experts, mechanics, instrument men, accountants, bookkeepers and flight engineers. CAA regulations prohibit any pilot who has an amputation from flying a commercial plane.

TWA has brought many things to this majestic setting of arched, sunlit skies and tiny, faraway villages and green plains. For here TWA has provided the essential traveler with good companionship as well as swift and easy flight. You sense this in friendly attention—taste it in good TWA food—find it evidenced in TWA's provision for your every comfort. We try to make you feel "free as a bird" from worldly cares—and, as TWA patrons will tell you, it usually turns out that you do.

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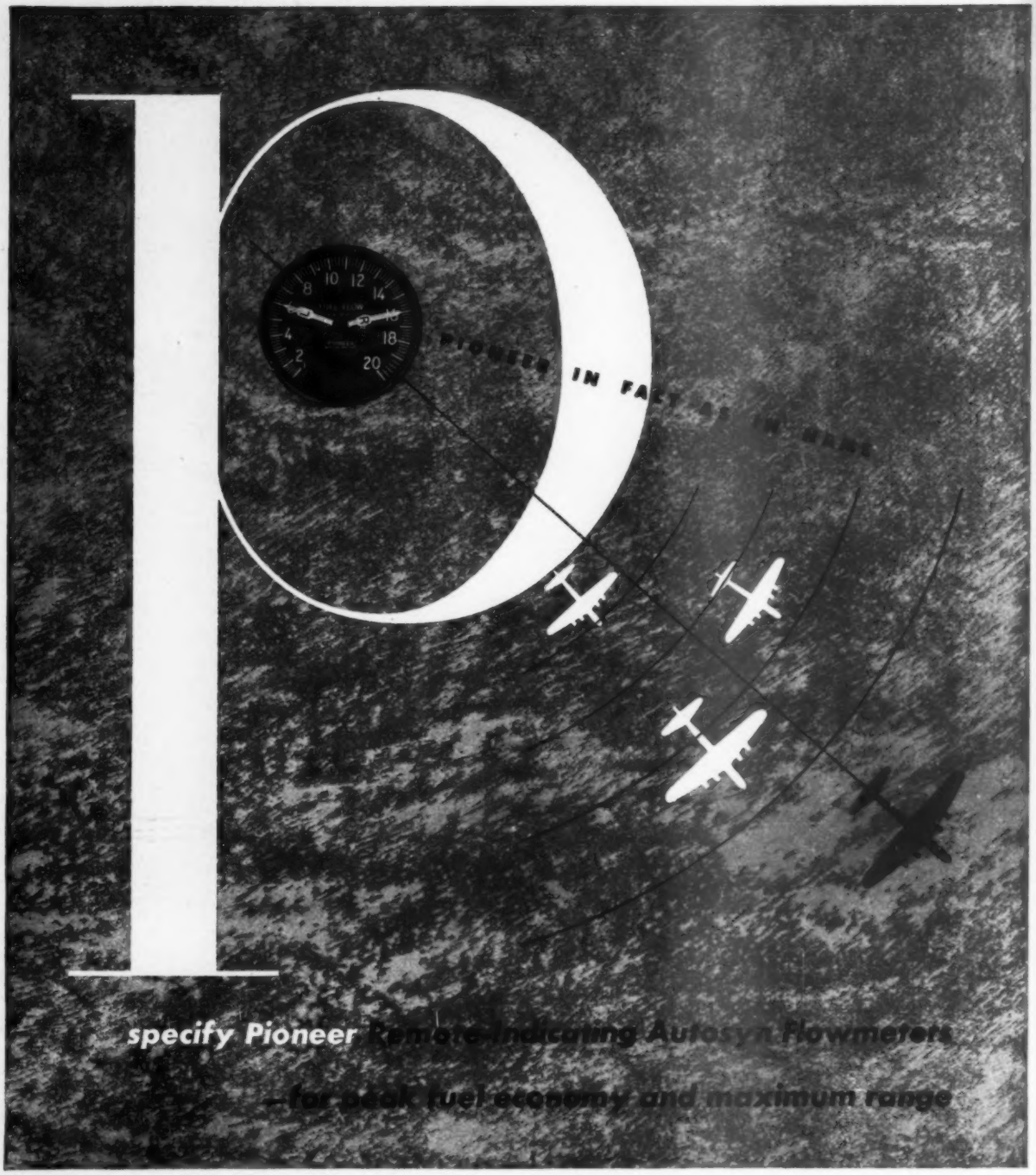
TWA

POINTS THE WAY

Don't travel unless your trip helps win the war



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Creation of Agency to Allocate State Taxes on Airlines Urged

National Tax Group Specifies That Five Be Named to Agency

THE National Tax Association has recommended to the Civil Aeronautics Board that if the allocation of state taxation on airlines is to be handled under general statutory regulation, then a five-man federal agency should be named to administer such a program.

The agency should be named from a group selected from the Council of State Governments, NTA said. It was emphasized however, that the association had reached no agreement as to whether allocation should be administered by specific statutes or in general statutory terms.

NTA's special tax committee concerned itself with studies of airline property taxes, gross receipts, net income and capital stock taxes, and set up formulae for allocation between the states in each instance.

Under property taxation, the committee set up two groups for the determination of taxes. The first group includes flight equipment, franchises and good will, on which taxes should be determined by the federal government. Taxation should be determined by the states on the second group, which includes such items as real estate and accounts receivable.

The committee employed three factors, each of equal weight, in arriving at a method of allocation. These were tonnage handled, equated plane hours and revenue ton miles flown. Valuation of property would be left to the states to determine.

Although the committee found that no states are presently assessing gross receipts taxes on the airlines, it recommended that should such assessment be made, the same formula as applied to the allocation of property taxes could be used.

The committee recommended with respect to net income tax that the allocation among the states be made by a uniform formula, and held that "bridge states"—that is states over which airlines fly, but in which no operations are conducted—have no right to assess such taxes.

The uniform formula recommended for net income tax assessments would be based on two factors—originating revenues and ground force payrolls. Revenues derived upon entering the airline system at points within the state would be considered originating revenues, and a ratio between the payroll within the state (excluding flight personnel) and the total company payroll in relation to state and total revenues would be used for determining the basis for assessment purposes on this portion of net income.

The National Tax Association's recommendations are but one of several which have been made to the CAB in its current airline tax study. The Board's recommendations to Congress are due for submission March 31.

The National Association of Tax Administrators has made seven recommendation to the Board, all of them generally similar to those submitted by NTA. A special committee of the North American Gasoline Tax Conference reported that it has been unable to draft recommendations on aviation gasoline because its studies failed to develop any unanimity either as to existing procedures or future policy.

Massachusetts Bill Asks $19,500,000 to Develop Boston's Logan Airport

The Massachusetts legislative committee on military affairs has under consideration a bill asking for $19,500,000 for the development of Boston's Logan Airport, submitted by the Department of Public Works. The airport hopes to attract post-war international aviation traffic.

Present plans call for 7,000 foot runways with 15 plane stations for domestic air, mail and cargo services, with the number of stations for domestic and foreign planes increasing to 30 over a 10-year period and eventually to 60. Estimated cost of the airport is $30,000,000 with the airport producing an estimated revenue of $2,052,000 at the end of 10 years. The department of Public Works states the revenue would be derived as follows: gasoline concession, $1,000,000; landing fees, $180,000; charter sight-seeing, $6,000; hangars, $50,000 and concessions in terminal building, $816,000.

Maryland Airport Group Eyes State Legislation

The Maryland Airport Operators Association, recently organized will direct its primary attention in the immediate future to encouraging state legislation deemed best for the future of aviation in Maryland.

Dick Henson, chief test pilot for Fairchild and owner of Henson Flying Service, Hagerstown, is president. Other officers are: Walter Mainville, general manager of Curtiss-Wright Airport, Baltimore, vice president; and Thelma Marian Chell, United Flying Service, Rutherford Field, Woodlawn, secretary-treasurer.

Eight airports were represented at the first meeting. The Association will oppose state duplication of Civil Aeronautics Administration authority, favor an airport license fee of not more than $1 a year, and urge that aviation organizations in the state have a voice in the Maryland Aeronautics Commission.

NARUC-Sponsored Legislation Still Being Treated Roughly

LEGISLATIVE measures seeking to set up economic regulations of interstate air carriers, many of them sponsored by the National Association of Railroad Utility Commissioners, continued to receive rough treatment as state legislatures either killed them outright or permitted them to die in committee.

A survey as of March 20 indicated that none of the bills had passed while in some instances the action taken indicated there would be no prospect of passage during the present session.

Hearings on H. 637—a NARUC bill up before the Connecticut legislature March 14—brought out strong opposition and observers felt that there was little likelihood of this bill getting out of committee. Similarly a hearing on S. 369 before the Maine legislature gave indication that the bill has little general support.

North Dakota indefinitely postponed action on its NARUC bill S. 114, while in West Virginia S. 150 was reported out with amendments and then recommitted to committee.

A bill (S. 220) which would require common air carriers to obtain certificates of convenience and necessity has been introduced in Oklahoma. In Minnesota, a companion bill was introduced to the NARUC bill now before a committee of one of the Houses. In Texas, H. 708, modeled somewhat on the NARUC plan, has made its appearance.

New bills also were introduced in Arkansas where S. 324 would provide economic regulation of common carriers by aircraft although it represents many changes over the accepted NARUC model. Little support has been evidenced for this bill in state legislative circles.

H. 495, said to be patterned after the NARUC proposal, has been introduced in the Maryland legislature. In Washington, S. 349 would have provided regulation of rates, service of common carriers by aircraft under the Department of Public Service. This bill was reported favorably March 2. S. 192, introduced in the West Virginia legislature, would put "common carriers by aircraft" under the jurisdiction of the Public Service Commission and serve, generally, the same purposes as are outlined in the NARUC bill.

Meanwhile a number of state legislatures have already adjourned without taking action on bills which provide for economic regulation of air carriers. Those which had adjourned as of March 16 were: Arizona, Arkansas, Idaho, Indiana, Montana, North Dakota, South Dakota, Tennessee, Utah, Washington, West Virginia, and Wyoming. It was expected by the time that this issue reaches subscribers that Colorado, Kansas, Maryland, Nevada, North Carolina, Oregon and Vermont will have adjourned.

Still in session were: California, Connecticut, Delaware, Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Texas and Wisconsin.

A number of states had passed enabling acts, most of them following the model bills endorsed at the Oklahoma State Aviation Clinic, which sets up State Aeronautics Commissions, so that the states will be able to participate in whatever type of Federal-aid program which may come out of Congress.

North African Division-ATC Operates Like U. S. Airline

Many Pilots, Officials From Domestic Lines On Job; Has 225 Planes

By ERIC BRAMLEY

CASABLANCA—Stretching from Dakar on the Western shore of Africa to Karachi in India is the North African Division of the Air Transport Command, a really bigtime military airline operation which is playing a vital role in rushing supplies and personnel to Europe, India and China.

Bramley

Run by a group of competent Army officers, many of whom are former U. S. airline pilots and officials, the division, in length, is equivalent to a route across the United States and back. Including routes branching off from the main line, the division's mileage exceeds 10,000.

Casablanca, headquarters of NAFD (North African Division), is one of the key points on ATC's worldwide system of air routes. All passengers and cargo from the U. S., destined for India and China, pass through Casablanca. The trans-atlantic contract operations of Pan American Airways, TWA and American Airlines land at this city. This is their terminal, the end of the line, and the point at which NAFD takes over.

NAFD is responsible for the onward transportation of this cargo, and also handles the processing of passengers and cargo from China and India to the U. S. Because many officers and enlisted men are returning to the U. S. on rotation—many of them have been overseas for from two to three years—the backlog of passengers at Casablanca awaiting transportation to the U. S. has at times been as high as 800.

In almost all respects, NAFD's operation resembles that of a U. S. airline. The division operates regular schedules, has a fixed policy on overhaul of engines and airplanes, follows a set operations procedure, utilizes "flow" charts and in general is a well-established operation.

In NAFD headquarters in Casablanca is a "situation room" in which is located a huge map of the division, covering an entire wall of the room. Small, magnetized airplanes are placed on the map, showing the exact location of the division's fleet, as received in hourly reports.

Some examples of distances covered by NAFD can be seen from the following figures: Dakar to Casablanca is 1,500 miles; Casablanca through to the end of the line at Karachi is 4,725 miles; Casablanca around the coastline via Gibraltar, Oran and Algiers to Tripoli is 1,486 miles; Cairo to Poltava, in Russia, via Teheran is 2,616 miles; Algiers to Marseilles is 474 miles, and Algiers to Naples is 636 miles.

NAFD has more than 225 planes in operation, of which more than half are Curtiss-Wright C-46s. The remainder are Douglas C-47s, with a few B-25s being used as staff ships.

NAFD reached its peak in October, 1944, when nearly 20,000,000 ton-miles were operated, 60 percent of which was cargo service, 30 percent passengers and baggage, and 10 percent mail.

Some idea of the division's growth may be seen from the fact that in January, 1944 about 12,000 passengers were carried and about 8,500,000 passenger-miles performed. By October, these figures had jumped to over 35,000 passengers and about 45,500,000 passenger-miles. By November, transport hours flown were over 30,000 monthly.

Tonnage transported to India by NAFD was substantial during the latter part of 1944, and further increases are expected.

In addition to its transport operations, almost 10,000 aircraft were ferried through the division during 1944, destined for the Mediterranean, European, India-Burma and China theaters, and for Russia.

Airplanes of NAFD receive a major overhaul every 3,000 hours. C-46 engines (Pratt & Whitney R2800-51), according to the division's policy, are to be overhauled at 750 to 850 hours, while C-47 engines (Pratt & Whitney R1830-92) are overhauled at 700-750 hours. In actual

Commandos for 'Hump'

Curtiss C-46 Commando transport planes, already in service with the Army's Air Transport Command and the Marines' Transport Air Group, will also be supplied to the China National Aviation Corp., Curtiss-Wright Corp. reveals. China National Aviation Corp. operates routes in China, Burma, and India, under contract to the Chinese government. Because of military security restrictions the number of Commandos to be delivered to CNAC has not been disclosed.

C-46 Commando is 'Workhorse' of NAFD

CASABLANCA — The Curtiss-Wright C-46 Commando is proving to be the workhorse of the North African Division of the Air Transport Command, and is receiving more and more praise from officers who are in a position to judge its performance.

When this reporter left the U. S., there were both favorable and unfavorable opinions being expressed about this largest of the twin-engined planes—the unfavorable opinions often being offered by those who were not qualified to express them.

Out here, however, are the men who have watched the plane's performance since it was put into operation in May, 1944.

These men, many of them former airline pilots and officials, assert that most of the "bugs" which were in the C-46—as they are in any new plane—have been overcome. They further emphasize that the craft was never guilty of all the faults of which it was accused—that pilot error was often the cause of accidents which might have been blamed on something else.

One officer here—a former million-miler airline pilot—stated without qualification that the C-46 is the best twin-engined airplane he has ever flown. All in all, the C-46 is receiving almost as much praise as Douglas apparently unbeatable C-54.

NAFD now has over 150 C-46s out of a total of more than 225 planes operated. These Commandos are powered with Pratt & Whitney R2800 engines (2000 hp.) and their single-engine performance is said to be outstanding. One pilot, just after leaving the ground, had one engine catch fire and fall completely out of the plane. With the empty, unstreamlined nacelle complicating his control problems, he was able to circle the field and land—with the plane loaded up to its allowable military gross.

The Commando

NAFD is now flying its C46s an average of 4.1 hours daily, the average including planes in the shop for overhaul. The "active" aircraft average is 8.6 hours daily for the C-46s. As crews receive even more training, and operations procedures are further perfected, this average is expected to hit a new high.

The C-46 seems to be proving itself and making a valuable contribution to the war effort in the NAFD.

E. B.

Stars in the sky.. *The Mustang*

One of the Great Airplanes Which Fly First on...

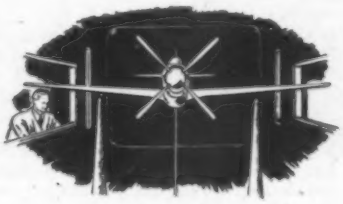
STANDARD AVIATION GASOLINE

The fuel that will put combat performance in peacetime planes.

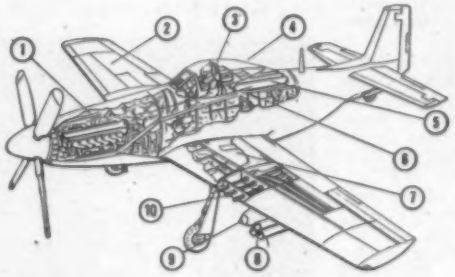
North American P-51 SERVICE RECORD

Europe • Africa • Sicily • Italy
China • India • Burma

The First U. S. built fighter to cross English Channel into Nazi-held territory after the fall of France.



It took North American only 127 days to design and build the Mustang. The Mustang won its spurs in dog fights, intruder raids, train busting. First P-51 was test flown October 26, 1940 — on Standard of California Aviation Gasoline.

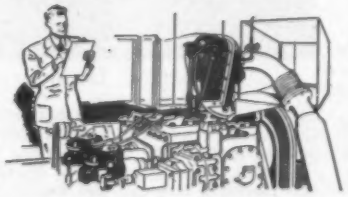


1 1520 h. p. Supercharged Engine
2 Laminar-Flow Super-Speed Wing
3 Armor Plate
4 Full-Vision Cockpit Enclosure
5 Oxygen Tanks
6 Two-Way Radio
7 Self-Sealing Gas Tanks
8 Three Bazooka Tubes on Each Wing
9 1000 Pounds of Bombs Under Each Wing
10 Three 50-Cal. Machine Guns in Each Wing

Present AAF Version (diagrammed above) is called world's fastest propeller-driven fighter at 450 m.p.h. Each Mustang comes off production line with its tank full of Standard Aviation Gasoline. North American Aviation, Inc. has used Standard Aviation Products since the commencement of their operations in California.

With six 50-caliber machine guns, two 1000-pound bombs, six bazooka tubes, the Mustang can fight anything the enemy offers. Here is what P-51 pilot sees diving on gun emplacement.

New gasoline being tested in engine which simulates conditions of actual flight.



Today, in Standard of California laboratories, the gasoline that powers famous fighting aircraft is being constantly improved to bring out the best in your postwar plane . . . to make it, too — a star in the sky.

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practice, playing on the conservative side, the C-46 powerplants have been overhauled at 670 hours, and the C-47s at 620.

NAFD is doing everything possible to make its operation safe. Several months ago, when C-46 equipment was first introduced, the accident rate was quite high. At present, however, the division averages only one accident for each 10,000 aircraft hours—and this average includes the most minor accidents in which no one is injured. As is the case with every airline, however, NAFD occasionally loses a plane.

Every precaution is taken to prevent these accidents. There are routine inspections of equipment, a pre-flight check 30 minutes before departure, a daily check, 25-hour, 50-hour, 100-hour, 300-hour, etc. Some officers here state that 90 percent of the improvement in safety record is due to crew training. Pilots flying the division must now have either 1,200 flying hours, or 670 hours plus graduation from OTU (Operational Training Unit). They go on route familiarization flights, and are otherwise prepared for their work.

In addition to operating widespread air routes, NAFD also has the job of handling transient passengers. In Casablanca, for example, several hotels have been taken over for use by these passengers, and special, approved eating places are provided. In addition, a transient camp housing 1,500 has been built.

All down the line, care is taken to see that passengers are accommodated. NAFD officers make routine inspections of all stations. One officer, inspecting the Benghazi Station, came to the place on his inspection form which asked: "Is there a ladies' room available?" His entry was: "Officers' latrine has reversible sign, for quick conversion to ladies' room."

Commanding General of NAFD is Brig. Gen. James S. Stowell, a West Point graduate of 1924, who has been in the air corps since 1928. Gen. Stowell, a command pilot, assumed his post last June. His chief of staff is Col. James F. McClendon. Among other officers are Col. Harry B. Johansen, operations officer and former commander of the 7th Ferry Group at Great Falls, Mont.; Lt. Col. E. W. Keeler, aircraft maintenance officer, former maintenance foreman for American Airlines in Boston and also with CAA's Air Carrier Division, and Lt. Col. F. W. Williams, division chief pilot, a former American Airlines captain.

Also in the division is Col. A. B. McMullen, deputy commander, Western Region. Col. McMullen was well known in U. S. aviation circles for his work on airports with the Civil Aeronautics Administration.

Handling priorities and traffic for the division is Lt. Col. R. L. Turner, formerly with Eastern Air Lines. Assisting him is Maj. Byron Skillen, formerly with TWA and All American Aviation.

Virginia Charter Given

Atlantic-Western Airlines, Inc., has been given permission by the Virginia State Corporation Commission to carry passengers, mail and small express from Danville to Richmond, Richmond to Lynchburg, Lynchburg to Roanoke, Roanoke to Danville, and return from Danville to Richmond by way of Roanoke and Lynchburg. The company is further authorized to operate between Richmond and Norfolk immediately that flying restrictions are removed in the Norfolk area.

U. S. Technical Committees Reactivated To Draft International Air Rules

THE 12 governmental committees dealing with the technical annexes covering international flying regulations, as adopted at the Chicago Civil Aviation Conference, have been reactivated to make final drafts of the proposed regulations. The drafts are to be completed by May 1 for submission to the other signatory nations and the Interim Council.

This move is in compliance with one of the final resolutions adopted at the Conference. The proposed regulations were circulated to industry in January, with comment due March 15. A minimum of comment has been received, however, since most of the regulations parallel those already in force for domestic operations, on which the industry has voiced its opinion.

It will be the job of the 12 committees to get the regulations on paper in final form. Each of the signatory nations will then be afforded an opportunity to make suggestions and comments on the regulations—possibly in another international conference which would be devoted exclusively to the technical aspects of international flight. The regulations cover airworthiness, standards relating to licensing of operating and mechanical personnel, and rules of the air.

CAA and CAB sources said that the 12 committees may not necessarily have the same personnel makeup as those which worked on the pre-Chicago drafts of the regulations, since the work now coming up will be of a more thorough and more formalized nature. It will be the job of the Interim Council, however, to coordinate the ideas of the several countries and to come out with the final and binding drafts of the international regulations.

The 12 committees are divided as follows among the governmental agencies: CAB 4, CAA 5, and the Coast and Geodetic Survey, U. S. Weather Bureau, Treasury Department (Customs), one each. The CAB's committees will be primarily concerned with the certification of airmen and aircraft and rules of the air; the CAA with traffic control procedures and navigational aids; the Coast and Geodetic Survey with maps and charts, and Customs and the Weather Bureau with the subjects associated with their names.

Although no annex was adopted at the Conference to cover the functions of the forms and publications committee, which is under CAA jurisdiction, it too will be reactivated in order to get its functions underway. These are primarily to act as a clearing house for the dissemination of information dealing with international air regulations. The Army and Navy will sit in with all of the committees in an advisory capacity.

Allies Drop More Bombs In Week Than Germans Did in 5 Years in England

The Allies have dropped more bombs on German cities in one week than Germany let loose on England in five years of war, Albert I. Lodwick of Lakeland, Fla., said on his return to the United States last fortnight from his second trip to European war fronts as a special consultant to the War Department.

Albert I. Lodwick

Despite the penetrations of Germany, the Germans are not yet beaten, and "it is entirely possible that we might have some serious setbacks both on the ground and in the air before this war is over," Lodwick declared.

After his three and a half months' tour of European and Mediterranean battlefronts he asserted that the consistent night and day bombings carried out by Lt. Gen. Jimmy Doolittle from England and Lt. Gen. Ira Eaker in the Mediterranean Area have reduced German oil production by more than 80 percent.

Lodwick said that anti-aircraft fire continues to be most destructive. More than 10,000 American bombers have been destroyed since the beginning of the war on all battlefronts, the majority being in the European theaters and due to anti-aircraft fire, he declared.

Lodwick long has been associated with the aviation industry, and during the war has operated primary training schools for the Army Air Forces in Florida.

Costa Rica Signs Pacts

Costa Rica has become a signatory to all of the agreements of the International Civil Aviation Conference. Having previously accepted the Final Act, Costa Rica now has signed the Interim Agreement, Convention, Air Services Transit Agreement (Two Freedoms), and Transport Agreement (Five Freedoms). Fifty-four countries have signed the Final Act, 42 the Interim Agreement, 40 the Convention, 34 the Transit Agreement, and 22 the Transport Agreement.

WHEN MERCY SPEEDS ON WHIRLING WINGS

Flood, storm, forest fire or a major accident often maroons victims in inaccessible country, far from relief so urgent in saving lives.

Tomorrow's helicopters will find one of their most vital uses in such emergencies. They can go straight up or down, and fly swiftly forward. If it were necessary, they could even "*stand still in the air*", only a few inches above ground, to unload relief cargo, or take aboard ill or injured persons.

Under war stimulus, with Government encouragement, great strides have been made in the development of helicopters. They can serve a wide range of activities, from crop-dusting to exploration in regions where no other craft can land or take off. Kellett engineers have had an important part in this evolution. They are preparing now for the time when helicopters will perform many of the challenging tasks of peace, the world over.

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TWA Puts Five Stratoliners Back in Service

WITH THE RETURN to domestic service of five four-engined Boeing Stratoliners, recently received back from the Army, Transcontinental & Western Air, Inc. has inaugurated a daily round-trip extra fare flight between New York, Pittsburgh, St. Louis, Kansas City, Albuquerque, Los Angeles and San Francisco. Elapsed time for the new service between Los Angeles and New York is only 14 hours and 35 minutes, 2 hours and 40 minutes faster than TWA's DC-3's, and an extra fare of $15 is being charged.

An additional round-trip Stratoliner flight between Washington, Dayton, Chicago, Kansas City, Albuquerque, Los Angeles and San Francisco, with an elapsed time of 14 hours and 40 minutes, will be inaugurated on May 1.

The original four-engined craft to be owned and operated by a domesetic airline, the TWA Stratoliners have been vastly altered in their reconversion from Army transports, and are capable of carrying much heavier payloads today than when they first plied the transcontinental route in 1940-42.

'Warm wall' method of heating is pointed out by E. Lee Talman, executive vice president of the airline. Heated air goes through passageways in walls, entering cabin through small vents above hat racks.

Major changes include the replacement of the original wings, landing gear and horizontal tail surfaces wit'. corresponding components of the newest B-17G Flying Fortresses. The original 1,100 hp engines have given way to 1,200 hp Wright G-205A's equipped with two stage superchargers. Propellers are the same new lightweight Hamilton Standards with which TWA recently equipped its DC-3's. The original electrical system has been replaced by a 24 volt system of a new type developed for the B-29.

Following these major changes which were made at the Boeing factory, many further refinements were added at the TWA shops in Kansas City. Chief of these was a "warm wall' heating system designed by the airline's engineers, in which heated air from two Janitrol units is circulated through ducts between the cabin interior and outer skin and discharged into the cabin itself through overhead rather than floor level vents. The heating units have a capacity of 200,000 BTU's per hour, and can be operated on the ground as well as in the air. With all engines inoperative, use of the heating system on the ground is limited to three-quarters of an hour, but with one engine turning up it can be run indefinitely.

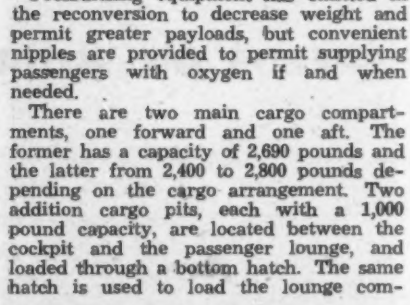
TWA Stratoliner in Flight.

The passenger section of the fuselage is divided into two compartments, a main passenger compartment seating 28 in double rows of individual reclining chairs, and a club lounge compartment seat 10. Seats in the main compartment are of a new type designed by Warren MacArthur Corp. with foam rubber cushions, and weighing only 26 pounds per chair as against 42 pounds per seat for the original equipment. Seats in the lounge compartment have easily removable arms and cushions to permit quick conversion to cargo space. There is a galley complete with hot plate, and two lavatories.

Another TWA innovation for increased passenger comfort is a device whereby individual seat lights can be focussed by the passenger to direct the beam so as to provide the greatest illumination without disturbing fellow passengers.

Pressurizing equipment has omitted in the reconversion to decrease weight and permit greater payloads, but convenient nipples are provided to permit supplying passengers with oxygen if and when needed.

There are two main cargo compartments, one forward and one aft. The former has a capacity of 2,690 pounds and the latter from 2,400 to 2,800 pounds depending on the cargo arrangement. Two addition cargo pits, each with a 1,000 pound capacity, are located between the cockpit and the passenger lounge, and loaded through a bottom hatch. The same hatch is used to load the lounge compartment which has a 2,000 pound capacity when used for cargo.



Specially designed chairs, light and flexible, are shown in club compartment, forward of plane's main cabin.

The new Stratoliners have a gross weight of 54,500 pounds and will carry approximately a 10,000 pound payload depending on the length of the flight. Total fuel capacity is 1780 gallons, and average fuel consumption is 200 gallons per hour. Cruising speed is about 200 miles per hour at 10,000 feet. The one-engine-inoperative ceiling at 52,000 pounds is 14,000 feet.

The four engine transports carry a crew of five, consisting of captain, first officer, flight engineer, and two hostesses. They are the first transports in domestic service to carry a flight engineer, and his duties will include operation of the heating and ventilating system as well as the engine controls.

Flight engineer's panel is shown being checked by John Collings, transportation vice president. This will mark first appearance of flight engineers on a domestic airline.

Pilots who will fly the Stratoliners in domestic service include nine veterans who piloted them in over-ocean service with TWA's Intercontinental Division.—Don. R. Terry, Howard E. Hall, F. E. Niswander, R. G. Hanson, E. O. Close, Earl W. Fleet, W. H. Fredericks, F. H. Wade and C. J. Kratovil. Other TWA senior pilots who have been assigned to the four-engined Boeings are: George K. Rice, former system chief pilot; George W. Brill, former assistant chief pilot; Evan Lewis, R. E. Overman, W. F. Grabill, T. S. Poquette, G. T. Weaver, B. Voigts, R. A. Heideman, S. W. Jaques, K. C. Fairchild, J. G. Walsh, E. T. Hereford,

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In whatever they do — strafe, reconnoiter, dog-fight or bomb — fighter pilots must have pin-point precision for success. ★ It's that way, too, with the more-than-65,000 Allison engines which power their swift, high fighting planes. For it is precision in working with metals which gives Allison engines their great power, their smoothness, their low weight, their economy with fuel and their long range. ★ These qualities will be equally important in the planes you will enjoy in the future. ★ They are qualities born of the precision which will mark any product that ever bears the name Allison.

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More than 65,000 Allison engines have been built for the above planes of the U. S. Army Air Forces.

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T. M. Moffit, L. W. Olson and W. H. Dowling.

Prior to resuming domestic service, the Stratoliners were taken on a tour of all TWA bases to familiarize ground crews with their maintenance and handling. Bases at which the big ships might be forced to put in in case of emergency as well as those from which they will regularly operate were included on this tour.

Chile in Position To Bid for Heavy Air Cargo Traffic

Air cargo potential between the U. S. and Chile shows good promise, with Chile in a strong position to bid for air traffic because of its large number of airports adequate for commercial use, the Industrial Reference Service of the Department of Commerce reports.

Civil airports in operation and able to handle any size plane total eight in Chile, compared with nine in Argentina. However, including smaller airports, the total available fields in Chile number about 40—all possibly suitable for use by commercial planes.

Industrial Reference Service said of the total trade of 1392 commodities which moved between the U. S. and Chile in 1939, 449 were selected as air-cargo potentials. These commodities represented 7.1 percent of the total trade, were valued at $4,093,798 and had an aggregate weight of 5,464,172 pounds.

The Industrial Reference Service was reinaugurated with release of the bulletin on Chile. The service is available to the public at an annual subscription rate of $1.50, through the Superintendent of Documents, Washington 25, D. C., or through the field offices of the Department of Commerce. Copies of air cargo potentials between the U. S. and Chile can be obtained from the same sources at 5c each.

Stockholm-to-Helsinki Line Has Heavy Traffic

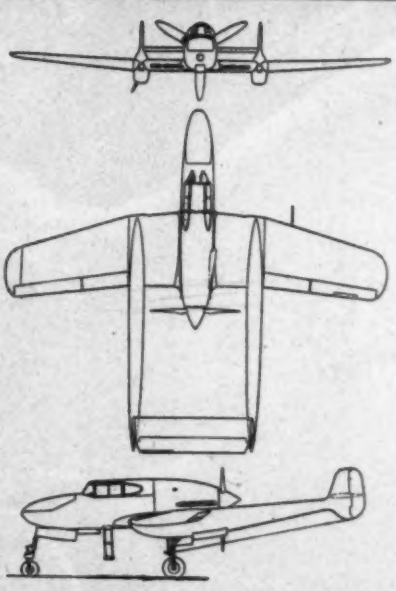
A. B. Aerotransport (Swedish Air Lines) is operating a busy route between Stockholm and Helinski, Finland. Heavy traffic is due to the limitations on surface transport because of war conditions in the Baltic Sea. For a time all ship operations were suspended and planes carried all of the traffic.

The Finno-Russian armistice did not greatly interfere with the Stockholm-Helsinki air service, the Russians agreeing to permit the Swedish line to continue a daily service, including Sundays. The route is operated in daylight with DC-3s.

ABA also is operating a daily service from Malmoe via Gothenburg to Stockholm. On April 15, this service, which was started last fall, will be extended to Lulea on the East Coast of North Sweden. Another domestic service now operating is from Stockholm to Visby on the island of Gotland in the Baltic.

U. S., Spanish Agreement

An agreement for the development of a new airfield opposite the Madrid Airport has been concluded by the United States and Spain. The field is designed to permit large planes to handle airborne American supplies for Allied armies and liberated countries, and under the terms of the agreement it eventually will be converted for civilian use by American and other postwar transport planes, augmenting present facilities.



Swedish J-21 Plane In Mass Production; Top Speed 375 mph

The new twin-boom Swedish J-21 fighter, fourth Swedish designed warplane placed in production since the outbreak of the war, and first Swedish plane having a tricycle undercarriage, is now in mass production at the Svenska Aeroplan Aktiebolaget, according to the aeronautical publication "Flyg".

The new fighter is powered by a liquid-cooled in-line engine mounted at the aft end of the fuselage and driving a pusher type propeller, and may possibly have been inspired by the German FW 190 which was exhibited at a Nazi meeting in Sweden in 1938, but was never mass produced. The unconventional design is said to have arisen partly from the fact that it made a nosewheel possible, thus permitting landings and take-offs on smaller fields close to the battlefront. Other advantages claimed for the new fighter are better visibility for the pilot, and more room for heavy armament in the nose.

Offsetting these are certain disadvantages including a rather heavy aircraft, and certain construction difficulties, which, however, have reportedly been overcome by SAAB.

No other data on the new fighter has as yet been released by the military authorities, but a Stockholm newspaper has guessed that the J-21 is powered by a 1500 horsepower Mercedes-Benz DB-605 engine, built in Sweden under license, and that it has a top speed of 375 miles per hour. The same paper points out that its construction makes it possible to have a 20 mm cannon in the nose and one or two 13 mm machine guns in the forward portion of each boom.

The three other Swedish designed warplanes now in production are the single-engined B-17 divebomber, the single engined J-22 fighter, and the twin-engined B-18 medium bomber. The J-22 is powered by a twin-row radial aircooled engine, and the B-18 has two 1,500 hp. Mercedes-Benz DB-605's of Swedish manufacture.

New Wings Over Sweden— The twin-boom fighter, J-21, is the latest addition to the Swedish Air Force. It is shown in flight in the lower photo. It has a retractable tricycle landing gear. In the drawings of the J-21, center, it is observed that the stabilizer with the elevator between the booms is considerably higher than the middle of the wing. The fins shown in the drawing are slightly different than those on the plane in the photo. Top photo shows a predecessor of this type, the German FW-189, which was built in 1938 but never was put into mass production. (Photos and drawings from Flyg.)

Flush rivets—smooth ailerons in the Kingcobra

. . . another magnesium fabrication advantage

Magnesium is famous for making aircraft *lighter*. Here's an airplane that's *built better* by a fabrication technique made possible by magnesium.

The P-63 Kingcobra, big brother of the Bell P-39 Airacobra, owes its fine, smooth ailerons to the magnesium alloy sheet that forms their skin, and to the offset extrusions that form the trailing edge. Because magnesium is a full third lighter than aluminum, it was possible to increase the thickness of the aileron skin to .040 inches without weight penalty. This thicker sheet avoided "oil-canning" and also made it possible to machine countersink, instead of dimple, for the flush rivets. The result—a completely smooth surface.

All in all, it's another fabrication triumph for the aircraft industry—and for magnesium . . . the kind of progress that means better products—for you.

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Feederline Travel At 3.5c Foreseen In Fairchild Study

A survey by the development division of Fairchild Engine & Airplane Corp. indicates feederline air travel rates may be set as low as 3.5¢ per passenger mile, including city to airport trips, if an ideal type of plane can be built for the purpose.

Results of the survey show that, contingent upon the development of the ideal plane, a potential market for 500 to 600 new short-haul aircraft in the United States may exist within the three-year period after sales are approved.

The survey estimates were derived from an exhaustive analysis of feederline route applications, Civil Aeronautics Board policies, economic factors affecting local air transportation, and the effect of war-surplus aircraft on initial requirements.

If feeder routes are granted by the Civil Aeronautics Board in the near future, surplus military aircraft may have to be used for a short time. Rapid replacement of the surplus aircraft should occur when planes become available that are capable of providing the marked operating economies required for the low-cost short-haul travel market.

Projected feederline applications average 358 miles per route, with 54 miles between stops and 19 miles between mail and express pickups. There are 5.5 stops and 17.8 pickups per route. About every 140 miles each route would have a junction point with other airline routes.

Frequent Short Hauls

Short hauls, according to the survey, would demand high frequency of service and fares less than half present airline rates. Many economies of operation can be effected by the operators, but substantial savings must be obtained through increasingly efficient aircraft and power plan design. The survey indicates that there is no existing airplane capable of providing the economical and efficient transportation required by projected feederline service.

Indications are that one of the ideal types of aircraft for short-haul work would have a flexible capacity for 8 to 12 passengers and 200 to 1000 pounds of cargo. A desirable cruising speed of 165 mph is indicated and the airplane should be sufficiently flexible to provide passenger service, mail-express pickup service, or both. Its small size would enable operators to provide high frequencies of service with lower capital investment.

The ideal plane would have no need for a long operating range. It appears that a range of approximately 230 miles with full payload, 315 miles with 70 percent optimum payload, and an absolute range of approximately 470 miles with 35 percent payload, including standard fuel reserves, would be satisfactory. The survey also indicates initial and operating costs would be more important than high performance.

It is estimated that this ideal plane might cost from $50,000 to $70,000, and should operate on a direct flying cost of 17¢ to 20¢ per airplane mile. If indirect expenses are double this direct flying expense, operators could achieve the desired passenger fare of the 3.5 cents per passenger mile.

T. P. Wright Wins Highest Army Civilian Award

Theodore P. Wright, CAA Administrator, has been awarded the War Department's "Commendation for Exceptional Civilian Service" for his part in promoting aircraft production while he was director of the Aircraft Resources Control Offices of the War Production Board. The award, highest honor conferred by the Army on civilians, was made by Maj. Gen. Oliver P. Echols, assistant chief of air staff in charge of material and services production.

Wright

"His development of useful methods for measuring manpower utilization and production efficiency has been of material assistance to the successful prosecution of the war," the citation said.

Mexico's 201st Squadron Receives Flag From AAF

Battle flags from the United States and Mexico were presented to Mexico's 201st Fighter Squadron recently at ceremonies at Majors Field, Tex., where the squadron is completing training for action overseas soon. It is the first expeditionary unit of that country to prepare for war off its native soil. The 300 Mexican pilots, ground and administrative personnel received the Mexican battle flag from Gen. Francisco Urquizo, undersecretary of war and personal representative of President Manuel Avila Camacho. A second flag given in the name of Gen. H. H. Arnold, Chief of the United States Army Air Forces, was presented by Lieut. Gen. Barton K. Yount, Commanding General of the U. S. AAF Training Command. Both flags will be carried into combat by the squadron, commanded by Colonel Antonio Cardenas.

Cardenas

ATC Flies Cargo to Navy Project at Point Barrow

More than 200,000 pounds of cargo were flown by the Air Transport Command last month to the Navy's oil drilling project at Point Barrow, within a few hours flying time of the North Pole. Using C-47 Skytrains, ATC's Alaskan Division under Brig. Gen. Dale V. Gaffney flew the 1000-mile round trip route until the Navy could assemble planes and pilots to handle the job, the War Dept. reveals.

Cargo included five-ton sleds that had been used on the Army's Canol project at Norman Wells, Canada; snow jeeps weighing more than 2½ tons, lighting plants, lumber, gasoline and fuel oil.

"At Point Barrow the weather is so unpredictable that cargo-laden planes have been unable to break through the fog for a landing and have been forced to refly the hazardous journey back to Ladd Field with their loads . . . Navigational aids are sketchy," the Army explains.

Most of the area is unsurveyed and at this time of year daylight lasts only a few hours. Two of the squadron's pilots, flying single-motored Norsemen on skis, are now engaged in survey operations along the Point Barrow route.

Civil Air Patrol Veterans Form Benefit Association

Association of Civil Air Patrol Veterans, Inc., has been formed to look after the welfare of CAP members and their families who have suffered loss or injury through active duty as an auxiliary of the Army Air Forces. Main objective of the group is to seek veterans' status and benefits for members who have had active duty on coastal patrol, courier and tow target missions, and similar work.

Frank E. Dawson, Charlotte, N. C., commander of the North Carolina CAP Wing, is national commander, according to the articles of incorporation. Other officers are: national vice commanders, Ralph Earl, Philadelphia, Elbert C. Isom, New York City, and Jimmy Vacek, Galveston, Tex.; national adjutant, Robert E. Dawson, Jr., Charlotte, N. C.; national treasurer, Dan F. Ritchie, China Grove, N. C.; national chaplain and historian, George W. Grove, Hickory, N. C. Members of the board of directors are F. E. and R. E. Dawson, Ritchie, Grove, Samuel P. Stow, Belmont, N. C., Julius Gresham, Daytona Beach, Fla., Gordon Love, Clinton, N. C., Ray Steffers, Minneapolis, Minn., and N. B. Nicholson, Monroe, N. C.

NATS Operations Mount

NATS-Pac operations during January set a new high of 5,000,000 plane miles, the Naval Air Transport Service, Pacific Wing, has announced. Ton miles during the same period climbed to 20,000,000, with payload about equally divided between passengers, cargo and mail. Wing schedules for March will keep 45 four-engine transports aloft every minute day and night. This schedule represents a 50 percent increase in NATS-Pac operations in the last three months.

Resolutions Adopted in Seattle

Resolutions in favor of the establishment of a direct airline service between Seattle and Anchorage, inclusion of Alaska in provisions of bills now before Congress, aimed to establish airfield and other commercial facilities throughout the nation, and a survey of the harbor of Sitka preparatory to making improvements there, were unanimously adopted by the Alaska Committee of the Seattle Chamber of Commerce recently.

PAA Bids for 8 Domestic Routes; All Transcontinental

No Change in 'Chosen Instrument' Policy; Called Protective Move

PAN AMERICAN AIRWAYS made its first major bid for entry into the domestic air transport picture last fortnight when it filed an application with the CAB asking for eight transcontinental routes reaching from coast to coast and from the Great Lakes to the Gulf.

Granting of authority for these routes would be necessary should the government "reverse its 17-year air policy of separating the domestic and international fields," the application stated.

Pan American spokesman emphasized, however, that the application indicated no change in policy insofar as the "chosen instrument" policy is concerned. One of the primary purposes of the application, Pan Am said, is to protect the carrier's competitive position with foreign-flag carriers.

Routes applied for are between the terminals of New York and Miami, New York and New Orleans, New York and Los Angeles, New York and San Francisco, New York and Seattle, Chicago and Miami, Chicago and New Orleans, and Los Angeles and Seattle. No authority for local point-to-point service is sought, Pan Am's application being limited to routes between international terminals.

All of the terminals named in the application, except Chicago, are already operating bases for Pan American's international routes. In each of the cities, Pan Am has complete traffic and operating organizations, and maintenance shops

Really Now, Lady . . .!

Continental Air Lines reports that a woman passenger recently complained at the end of a Denver-San Antonio flight that the chewing gum which the hostess had given her for her ears was "too sticky." It seems the passenger chewed the gum well, divided it, and inserted half a wad in each ear.

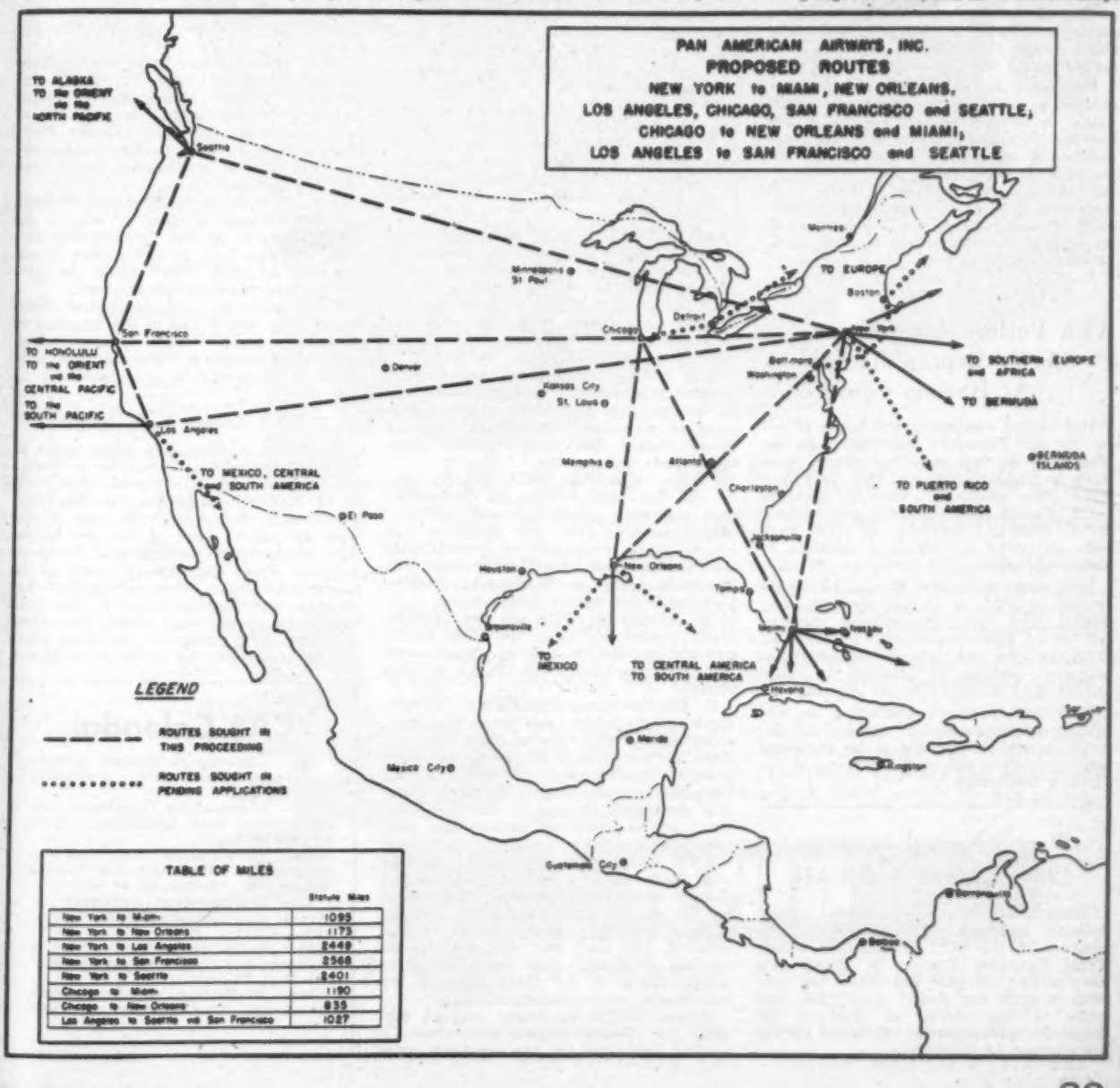


TABLE OF MILES

	Statute Miles
New York to Miami	1099
New York to New Orleans	1173
New York to Los Angeles	2449
New York to San Francisco	2568
New York to Seattle	2401
Chicago to Miami	1190
Chicago to New Orleans	839
Los Angeles to Seattle via San Francisco	1027

for international routes, the application states.

"Pan American has not heretofore engaged in the air transportation of persons, property and mail within the continental United States or between the continental United States and Canada," the application states. "It has taken the position that the public interest would be best serviced by a continuation of the historic separation between air carriers engaged in air transportation within the continental United States and between the United States and Canada on the one hand, and the air carriers operating from gateway airports in the continental United States to its overseas possessions and territories and other foreign countries, on the other."

The application states that if the government should decide to allow American domestic air transport operators to extend into the international field, and "thus split up this much smaller traffic potential among several American companies, then Pan American as an international operator would have to be enabled to tap a far greater domestic traffic market in the public interest."

The right to conduct such domestic services as outlined, the application states, would be necessary to enable Pan American to "acquire and maintain the large number of aircraft of the advanced type required to meet foreign competition on its international services. With other American lines in this international field, such domestic rights for Pan American would also be demanded by fair competitive considerations."

ATA Polling Airlines As to Representation At Havana Conference

The airline companies are being polled by the Air Transport Association on the likelihood of their sending official delegates to the International Air Transport Association meeting in Havana April 10 to 19. Stuart G. Tipton, acting head, and M. F. Redfern, secretary, of ATA have been delegated to attend as advisors to airline delegates.

It is understood that the board of directors of ATA, at its last meeting, concluded that this international meeting will be of great importance and that all U. S. airlines, either in the international transport business or planning to enter, should send delegates to the meeting.

Unsettled questions pertaining to eligibility requirements for voting and associate memberships are to be discussed again sometime before the opening of the Havana conference.

Wrenn Named Assistant Chief Examiner of CAB

Thomas L. Wrenn has been named assistant chief of the Office of Trial Examiners of the Civil Aeronautics Board, Chief Examiner Francis W. Brown has announced. Wrenn has been an examiner with the Board since 1939, and prior to that served as chief of the domestic transportation division of the Department of Commerce.

New Major Issue:

Can Interchange Agreements Take Place of New Routes?

Introduced in Oral Argument of Great Lakes-Florida Case

By KENNETH E. ALLEN

THE QUESTION of whether interchange agreements can accomplish the purposes of new routes, without actually granting the additional mileage to a carrier, became a major issue in oral argument of the Great Lakes to Florida case (Docket 570 et al) before the Civil Aeronautics Board last fortnight.

The issue was touched off by two proposals for interchange which would accomplish the same purpose as a one-carrier route between Detroit and Miami.

A. C. Dick, Colonial Airlines counsel, maintained that his company could interchange with either National or Eastern Air Lines at Charleston to provide Detroit-Miami service, provided his company were certificated between Detroit and Charleston.

Seth Richardson, Delta Air Corp. counsel, said that in the event the Board did not grant a direct Detroit-Miami route, then it would be willing to work out an interchange with TWA at Cincinnati to provide that service, if the Board would grant Delta "entry mileage" into Florida from Savannah to Miami.

Both Eastern and Pennsylvania-Central Airlines sidestepped the interchange issue on the grounds that these arrangements were of secondary importance, that the Board should first complete the major trunk lines pattern.

Charles Murchison, PCA counsel, said he did not believe that the proceeding was primarily concerned with Detroit-Miami service, since the Michigan city has no more community of interest with the Piedmont-Asheville-Florida areas than do such cities as Pittsburgh, Buffalo, Cleveland and Akron-Youngstown.

By certificating PCA on the Detroit-Miami route, he said, the CAB would provide service to all of those areas through integration with PCA's present system.

E. Smythe Gambrell, Eastern counsel, argued that Detroit was more important economically than Boston, and that the CAB had certificated service to the latter point by four carriers. He said that Detroit-Miami traffic had never been properly developed because of the land barriers in the Piedmont section and poor rail service.

TWA, American and National took issue with the examiner's recommendation that Eastern should be extended into Detroit on the grounds that the carrier had not applied for the specific route recommended. At least one of the protestant carriers indicated that legal fireworks would follow if the CAB followed the examiner's recommendations.

Robert Griffith, American counsel, said that the Detroit-Miami route was a natural extension for his company, since it would make connections with its present routes over most of the new territory sought.

National took the position that the Miami-Detroit route offered the only logical extension to the carrier's present system, with William I. Denning, counsel, emphasizing that this service would be supplied with a minimum of duplication and competition to other carriers.

The interchange proposals received strong support from D. Franklin Kell, public counsel, who asserted that no public need had been shown for a direct one-company Chicago-Florida, or a Detroit-Florida route, although a connection between Charlotte and Columbia was required.

Three local-service applicants—State Airlines, Virginia-Central Airlines, and Southeast Airlines—asked that the Board give consideration to the development of a local service, particularly in the Piedmont area, where poor surface transportation has slowed commercial intercourse with the outside.

Fred W. Albertson, Southeast counsel, said he doubted whether it was in the public interest to let "grandfather airlines" develop local services, since it was doubtful whether they would be primarily interested in such services.

W. G. Burnette, Virginia-Central counsel, said he would like to see adoption of a policy under which discrimination against intermediate cities on the proposed routes would be eliminated.

NWA Leases N. Y. Space

Northwest Airlines has taken space in the new city information center at Forty-second street and Park avenue, New York. R. O. Bullwinkel, assistant to the NWA president in charge of traffic, said Northwest will share space in the new center with Pennsylvania-Central and Northeast airlines. These quarters will serve as the downtown pickup terminal, with ticket counters and waiting rooms in the front and space at the rear where limousines will pick up passengers. Tentative plans call for opening of the center about May 1.

CAB Calendar

Apr. 2—Hearing on National Airlines rate case (Docket 824) (Commerce Bldg., 10 a.m.).

Apr. 3—Prehearing conference on Mid-Atlantic area application. (Docket 674 et al).

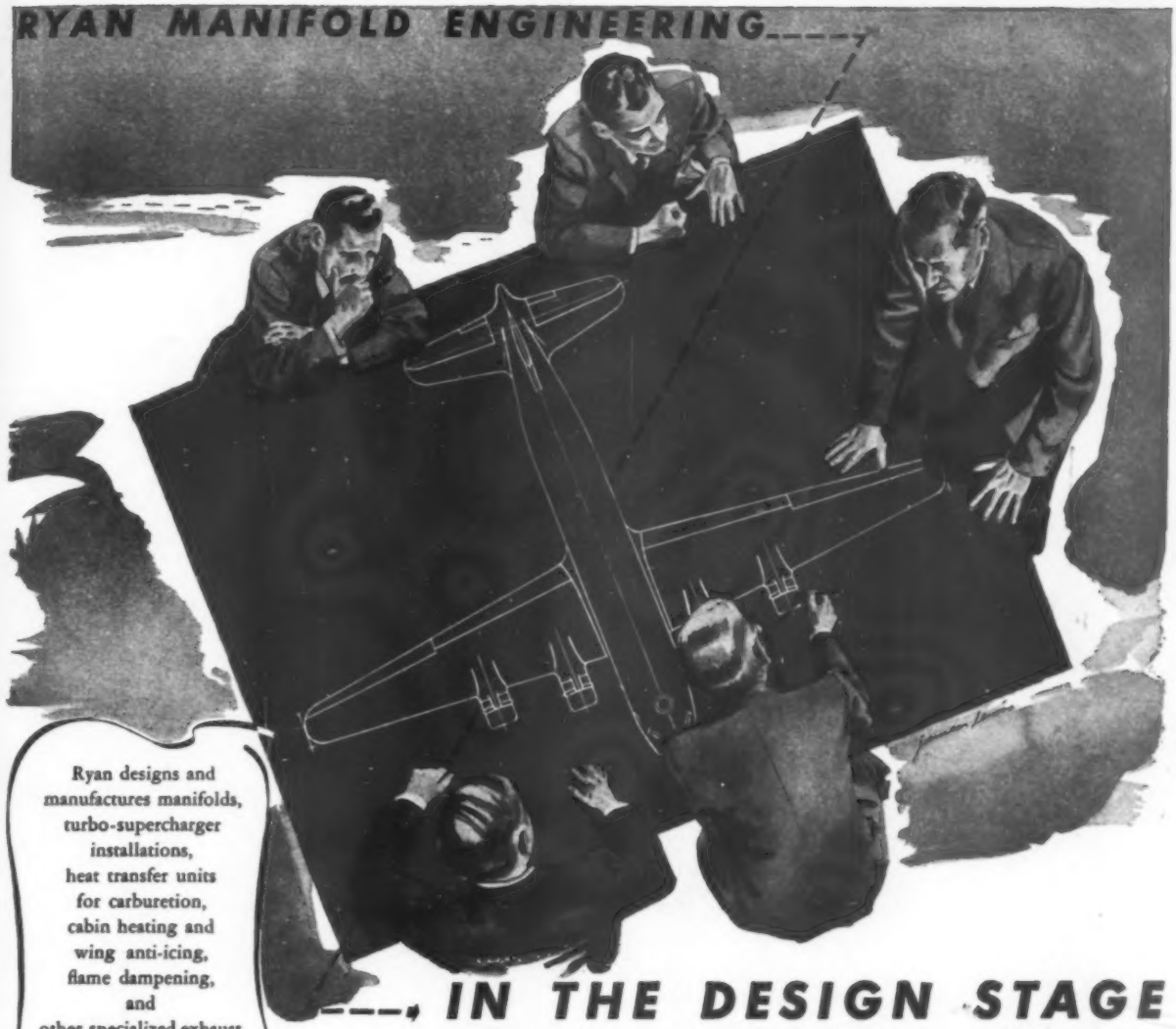
Apr. 4—Prehearing conference on Boston-New York-Atlantic-New Orleans application. (Docket 581 et al).

Apr. 23—Prehearing conference on Kansas City-Memphis-Florida applications. (Docket 1051 et al).

Apr. 30—Hearing on TWA-Chicago & Southern interchange agreement. (Docket 1704) (Tentative).

May 28—Hearing on Southeastern States case (Docket 501 et al) (Tentative).

RYAN MANIFOLD ENGINEERING----



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AN IMPORTANT DEVELOPMENT for fighter pilots is this new Kollsman Maximum Allowable Airspeed Indicator. The broad colored pointer moving over the dial of the indicator gives the pilot constant warning of the airspeed at which the plane will enter the dangerous compressibility pattern. This is a speed which may be quickly reached in flight maneuvers, particularly at high altitudes, with resulting loss of control or destruction of the aircraft. Operating airspeed is indicated by means of the white pointer on the same dial. The relationship of operating airspeed to the critical speed is, therefore, constantly apparent. On the mechanism which actuates the colored pointer, settings are provided for both the maximum desirable Mach Number and the maximum operational speed for the particular design of aircraft being flown.

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In Wake of Show-Cause Orders

Four Lines Criticize CAB In Allocation of Costs

TWA, United, Eastern, American Unanimous In Censuring Board

THE FOUR CARRIERS—TWA, United, Eastern and American—named by the Civil Aeronautics Board to show cause why their mail pay should not be reduced from 60 to 32 cents a ton-mile are unanimous in taking issue with the Board on the use of any cost allocation between airmails and other services as a basis for determining a fair and reasonable mail rate.

Eastern, for example, stated that it had made an effort to determine some reasonable basis for cost alocation as between mail and other services, and found that such allocation was not feasible.

The Board in its effort to arrive at such an allocation omitted many essential items of cost, some of which cannot be evaluated accurately, Eastern said.

United argued that its planes are used for mail, property, and passengers, yet the Board had instituted no proceeding looking into passenger fares—a factor which must be given consideration in determining mail pay.

Cites 1942 Decision

Eastern said the Board went along with this argument in its decision of Oct. 19, 1942, in which the carrier's mail pay was set at .3 of a mill per pound mile. In that decision the CAB said:

"An ever-widening use of the airlines by passengers is clearly the most effective way to develop an appreciation of the utility and advantages of our air transportation system; and the wider the patronage by individuals the greater is the probability that they will have air transportation in mind when sending their mail and shipping their cargo."

With respect to allocation of costs, Eastern stated in its answer to the show-cause order:

"The Board previously pointed out that all non-mail services redound to the benefit of airmail, both in reduction of cost and in popularizing the airmail service. Obviously, some substantial part of the cost of non-mail service should therefore be allocated to airmail under any reasonable allocation system.

"Also, priority handling given airmail results in added cost and reduced non-mail revenues. Some details of costs which the Board did not allocate but which must be allocated to mail, if any allocation is to be attempted, are pointed out in the following factors:

"1. The unofficial priority of mail over all other types of traffic; 2. the necessity for operating schedules during hours when no passenger could conceivably desire transportation, solely for the benefit of the Post Office Department; 3. the value of the service as measured by the charge to the consumer; 4. the historical background of air transportation, which was basically an air mail service; 5. the enormous differential between the cost of providing a 'mail only' service and the so-called allocation formula of the CAB.

"The railroads are paid for transportation of first class mail on the basis of space provided, regardless of whether that space is occupied or not. At the present time the air carriers are not so paid. If they are not to be paid on such basis in the future, certainly some allowance must be made for the fact that air carriers are compelled to restrict their non-mail loads and services in order to make available space and services for the Post Office Department.

"In one form or another, airmail compensation should be sufficient to pay for all space which, on the basis of experience, the carrier must hold in order to be certain to accommodate the airmail.

"In other words, if a cost allocation basis is to be used, the cost must be allocated on the basis of peak loads of mail, and not on the amount actually carried. On the other hand, if no allocation is adopted, the rate fixed should apply to the pound miles represented by the space necessarily held by the air carrier for airmail, not merely to the amount of airmail actually carried."

Eastern also held that the Board had been unfair and unreasonable in allocating too little expense to the airmail service. This included direct flying costs, ground handling, passenger service expense, and traffic and sales expense—all of them necessary in dealing with the actual handling of the mail.

Meanwhile, a table prepared by the CAB for *American Aviation* showed that mail payments to all air carriers had dropped from $2.15 a ton mile in 1939 to 67c in 1943. While these costs were dropping, tons of air mail carried increased from 13,511 in 1939 to 57,134 in 1943.

The following table gives a complete breakdown of tons of air mail, mail ton-miles, and payments to carriers for the calendar years 1939 through 1943:

	Tons of Air Mail Carried[1]	Mail Ton-Miles	Mail Payments To Carriers	Mail Payments per Ton-Mile
All Domestic Air Carriers				
1939	13,511	8,610,727	$18,482,475.88	$2.15
1940	16,426	10,117,856	20,090,123.20	1.99
1941	21,640	13,118,014	22,696,350.84	1.73
1942	33,692	21,166,024	23,469,821.01	1.11
1943	57,134	36,068,309	24,103,189.50	0.67
American Airlines				
1939	2,960	1,976,012	$3,682,750.16	$1.86
1940	3,523	2,260,013	3,909,155.92	1.73
1941	4,762	2,935,759	4,272,853.51	1.46
1942	7,317	4,546,184	3,286,825.22	0.72
1943	13,214	8,145,462	4,886,389.14	0.60
Transcontinental & Western Air				
1939	1,464	1,436,626	$2,806,156.45	$1.97
1940	2,436	1,967,190	3,156,584.04	1.58
1941	3,261	2,489,525	3,056,071.93	1.23
1942	4,931	3,838,830	3,628,447.61	0.96
1943	9,555	7,161,211	4,290,545.49	0.60
Eastern Air Lines				
1939	1,958	1,053,264	$1,707,752.55	$1.62
1940	2,361	1,281,816	1,822,057.83	1.42
1941	3,062	1,703,663	2,028,927.18	1.19
1942	4,803	2,851,528	2,314,763.81	0.81
1943	7,167	4,355,927	2,599,200.29	0.60
United Air Lines				
1939	3,301	2,700,955	$3,870,885.49	$1.43
1940	3,601	2,917,198	3,863,737.67	1.32
1941	4,696	3,724,702	4,107,465.20	1.10
1942	7,773	6,568,355	5,634,379.45	0.86
1943	12,606	10,584,661	6,316,211.02	0.60

[1] *Inflated to an indeterminable extent by the multiple count of all interroute traffic, arising from the fact that such mail is separately counted on each route over which carried.*

UAL Reiterates Position That One Transatlantic U. S. Carrier Is Sufficient

United Air Lines states in a brief filed in the North Atlantic case (Docket 855 et al) that its primary position as an intervener in the proceeding is that "the United States should rely upon one financially strong and economically sound trans-Atlantic air carrier to meet the competition of foregn air carriers."

"If our view on that issue does not prevail, we nevertheless maintain that American air carriers flying the Atlantic in competition with foreign carriers should have strong and impartial support by all of the domestic airlines of this country. That result will not be attained if an American air carrier operating over the Atlantic is either a transcontinental air carrier or a subsidiary of a transcontinental air carrier."

United holds that transatlantic traffic will be relatively small, and not enough to support more than one carrier. Public counsel, represented by John Wanner in oral argument before the CAB on the North Atlantic case, pursued a similar line of reasoning in recommending that only two carriers be certificated.

Wanner said that the two carriers should be big enough and strong enough to compete effectively with foreign flag carriers. If three carriers are selected, he said, TWA should be one of them.

Joe Commentary

HERE WE ARE IN AFRICA—in the Casablanca that you've seen in the movies . . . This is slightly different from sitting in Washington or traveling around the United States, banging out stuff for this column . . .

We flew the Atlantic, from Miami to Bermuda, Azores and Casablanca . . . It was one of our greatest experiences, a hard one to describe because it's been done so many times before and is a routine operation . . . Hundreds of people do it every day, but it was still a thrill . . . And it's still hard to believe that the flying time from Miami to Casablanca was only 19½ hours . . .

Before we left the U. S., all our friends had kidded us that it was sure going to be a nice, hard, uncomfortable trip, riding across the pond in one of the war's worst inventions—the bucket seat . . . So imagine our surprise when we climbed aboard one of the Air Transport Command's brand new C-54Es, a "plush seat" job if there ever was one . . . This plane was right out of the factory—it had less than 10 hours on it when we left Miami, and this was its first trip . . . At every stop all the brass hats came out to look over this new prize . . . The plane is so beautifully equipped that an airline could take it over tomorrow and put it into service without making any changes . . .It has 44 regular airline seats, soundproofing, finished interior, rug on the floor, overhead rack, window curtains, reading lights for both window and aisle seats, ash trays, a "kitchen" which will have hot plates and other appliances when fully equipped . . . It even has the usual illuminated airline sign in the front—"No Smoking, Please Fasten Your Seat Belts" . . . In the rear is a spacious washroom—two washbowls, large mirrors, outlets for electric shavers etc. . . . This was only the second C-54E to cross the Atlantic . . . It's really high-class transportation . . .

We came across on Pan American Airways' ATC contract operation, and there can be nothing but praise for the way Pan Am handles the planes . . . Everything is so routine, so carefully handled that you're perfectly at ease . . . Aboard the plane was PAA Captain Heckenthorn, riding in the cabin on an inspection trip . . . He invited us up front, where we met Capt. Ralph Carter, a veteran of some 120 Atlantic crossings . . . We were surprised and flattered to discover that Captain Carter has been one of our more enthusiastic readers for a long time, so we sat in the co-pilot's seat and chewed the fat with him between the Azores and Casablanca . . . It was a strange feeling to be sitting there, some 7000 feet above the Atlantic, pitch-black outside, traveling some 250 miles an hour, discussing articles which have appeared in this publication, and the aviation affairs of the day . . . We had another reader on that PAA crew—the flight engineer—but because of the engine noise, and being a poor reporter, we neglected to get his name . . .

So far on this trip we have heard nothing but praise for the Douglas C-54 . . . The Pan Am and ATC boys to whom we have talked think it's one of the war's greatest planes and that it is making an important contribution toward winning that war . . . And that also goes for the Pratt & Whitney engines that power it . . .

In the Azores we dropped in and said hello to Maj. Al Towne, P&T (priorities and traffic) officer, formerly with United Air Lines . . . The Azores base is an impressive sight and Al seems enthusiastic about his work . . . In Casablanca, working P&T, is Maj. Byron Skillin, formerly with TWA and All American Aviation . . . Lt. Col. Dick Pfennig, assistant division operations officer and former UAL vice president, is here, as is Col. A. B. McMullen deputy commander, Western Region, who did such a good job for CAA and the old Bureau of Air Commerce on airports.

Right now we're meeting people and discovering that there's any amount of story material here . . . With the help of Lt. Paul Bradley, one of ATC's more capable public relations officers, we're digging it out for you . . .

ERIC BRAMLEY.

Eight Personnel Changes Announced by American

Gage Mace has been appointed Manager of Operations for American Airlines in Los Angeles after serving as director of operations research at LaGuardia Field. J. E. Gainer, Jr., station master at Los Angeles has been named supervisor of passenger and cargo service. T. G. Williams, superintendent of Eastern flight operations at Chicago, has been named manager of operations for Chicago, George Whittlesey, station master at Chicago, will be supervisor of passengers and cargo. W. P. McFail, assistant division superintendent for transatlantic operations, will be manager of operations in Nashville. J. H. Woods, station master, will be in charge of passenger and cargo service. H. Gallemore, maintenance field superintendent, has been appointed manager of operations in Fort Worth with E. R. Merrett as supervisor of passenger and cargo service.

Yesterday's Airline Pilots Are Running ATC Show in Africa

CASABLANCA—Many of those U. S. domestic airline pilots who vanished from the airline scene a couple of years ago are here in North Africa doing an outstanding war job.

They're not "flying the line" as they did before joining the Army—they're holding even more important administrative jobs. The Air Transport Command is benefitting from their know-how, gained through thousands of hours of airline flying.

Chief Pilot of Air Transport Command's North African Division is Lt. Col. F. W. Williams, former American Airlines pilot with 8300 flying hours on his record. Col. Williams has supervision and direction of all ATC pilots flying in NAFD.

With Col. Williams in Casablanca as assistant division chief pilots are Maj. Clifford Zieger, former Eastern Air Lines pilot, and Maj. W. A. Rosenfield, of United Air Lines.

The base chief pilot at Casablanca is Maj. Don Hurst, Braniff Airways, who has as his assistants Maj. Clarence Wiltzer, United, and Maj. Rodney Jones, American.

Lt. Col. Robert H. Talbott, TWA, is flight operations officer at Casablanca, while Maj. Robert Polhamus, Northwest Airlines, is director of operations at the same base.

Further down the line, at Tripoli, the director of operations is Maj. R. A. Kirbert, PCA, with Capt. B. B. Heath, American, serving as chief pilot.

At Cairo, Maj. Paul Norman, United, is deputy base commander.

Director of operations at Marrakech is Maj. Richard Van Eden, Braniff Airways. The director of training at the Marrakech Transitional School is Maj. G. W. Vaughan, TWA, assisted by Capt. H. C. Gilmore, Eastern.

Six of these former airline pilots have between 8000 and 9000 flying hours on their logbooks—Col. Williams, Maj. Hurst, Maj. Zieger, Col. Talbott, Maj. Polhamus and Maj. Norman. The others named have between 5000 and 6000 hours.

E. B.

Laying Wire by Plane

Telephone wire now may be speedily laid from low-flying cargo planes, the Air Technical Service Command recently revealed after completing joint tests with the Bell Telephone Laboratories. A Douglas C-47 laid 16 miles of Army telephone wire between Gatlinburg, Tenn., and Smokemont, N. C., in 6-2/3 minutes of flight time, ATC reports. Stretched over the rough, wooded slopes of the Great Smoky Mountains, with elevations between 1500 and 5000 feet, the wire was used temporarily by National Park Service rangers. Standard pole installation for that distance and terrain would demand many more men and days, ATC says.

Selective Service Alters Draft Demands; 'Catastrophe' Averted

Airlines Allowed 90% Deferments for Vital Personnel Under 30

A THREATENED BREAKDOWN in the country's air transport system was averted last fortnight when Selective Service modified its earlier draft demands, allowing the airlines a 90 percent deferment for essential personnel in the under-30 age group.

A total of 4860 certifications were granted to the airlines by Selective Service. This action superseded the agency's original demands for only a 30 percent deferment in the 2A and 2B classifications.

The Office of Defense Transportation, which spearheaded the drive for relaxation of the draft demands, informed the airlines, however, that the action must not interfere with normal draft procedures, and that the carriers must use every means to see that employes in the under-30 age bracket who are not absolutely essential are made available for Selective Service calls.

Col. J. Monroe Johnson, ODT director, said the new policy had averted a "catastrophe in transportation," that if the original 70 percent draft demands had been allowed, the air transport industry would have been "completely disrupted."

In addition to ODT, the Civil Aeronautics Board, War Manpower Commission, Air Transport Association and the Air Transport Command pleaded the cause of the airlines before an interdepartmental draft deferment board, headed by Paul McNutt, WMC director.

The airlines' claim for relief from the stringent draft situation was based on these factors: That the system is absolutely essential to the war effort, and that if the earlier draft regulations held, 25 to 30 percent of the present schedules and services would have been wiped out.

International repercussions were also involved, since services to Central and South America and to Africa and the Orient would have been crippled.

Spokesmen for the airlines emphasized that it is in a peculiar position draftwise, as compared with other forms of transportation, since a large part of its key personnel is embraced in the under-30 age bracket.

The Air Transport Command reiterated its arlier recommendations to Selective Service that occupational deferments be granted to technically trained U. S. airline employes for whom qualified replacements are not available.

Such deferments have been urged by ATC for airline pilots, navigators, radio operators, flight engineers; ground personnel, including radio operators, aeronautical and maintenance engineers, shop foremen and superintendents, inspectors, crew chiefs, mechanics, dispatchers and meteorologists.

1945: Readjustment Period For Airlines, Says Argus

Although gross revenues for the domestic airlines are expected to reach new highs during 1945, the prospect of a lower mail rate for the "big four" and generally lower passenger fares—plus the prospect of more airlines being subject to excess profits taxes—will result in periodic readjustment to the progress of earnings for some airlines during the year, Argus Research Corp., 61 Broadway, New York, reports.

Argus reaches this conclusion, after weighing the several factors most likely to affect the air carriers:

"With the imminence of national reconversion problems and the erratic industrial earnings expected to develop during the transition period, the airlines stand out clearly among those companies occupying a most favored position. War or peace, airline profits are expected to remain at high levels with the prospects of a further upward surge in the event additional planes are made available after the European war. It is difficult to see how any further reductions in passenger fares than those already proposed by the airlines can stem the strong forward movement in earnings, which will be motivated by a dynamic rise in all kinds of air traffic after the war."

Ayres Succeeds O'Reilly As Communications Chief of TWA; Nine-Year Veteran

Ralph C. Ayres, chief radio engineer of Trans-ontinental & Western Air, has been appointed system superintendent of communications, succeeding Gordon A. O'Reilly, who has left TWA to become vice president and general manager of Aeronautical Radio Incorporated of America, Ayres, who has been with TWA nine years, became an aircraft radio engineer with the airline in 1937 and was named chief radio engineer in 1942. He has worked on the installation of static loops on the DC-3 and such developments as VHF and experimental markers in conjunction with instrument landing. His recent assignments have been in conjunction with static precipitation tests, on which he is considered an authority.

Ayres

ATA Survey Shows:

Sixty Million Plane Miles Yearly To be Added with Surplus Planes

BASED on present day plane utilization of slightly more than 2,000 miles daily per plane, the 82 transport planes which have been turned over to the airlines by the Surplus Property Board since early in December will add approximately 60,000,000 plane miles annually to the U. S. domestic and American Flag line total.

Officials of the Air Transport Association said that plane utilization is still going up. Last fall it was at 12½ hours and 1910 miles per day per plane while today it is approximately 13½ and slightly more than 2,000 miles per day.

In 1943, the U. S. domestic fleet flew a total of 136,883,053 miles with an average of 194 planes in service. Today the domestic airline fleet, counting all planes which have been return to the airlines both from the Army and through surplus procedures, is around 360.

A re-capitulation of all surplus transport planes which have been allocated under Surplus Property Board procedures was made recently by SPB. It shows that in addition to the 82 which were assigned to airlines, 15 Lockheed Lodestars went to individuals and companies engaged in war work and 58, including Douglas DC-3's and Lockheed Lodestars, to 19 airlines in 16 foreign nations.

On March 10, SPB allocated 18 transport planes. The following airlines each received one Douglas DC-3: United, TWA, Mid-Continent, Northeast and Panagra. American received one Douglas DC-3 to replace one lost recently in a crash. A recapitulation of all planes allocated by SPB follows:

Domestic Allocations

Douglas DC-3 type

American Airlines, Inc	15
Braniff Airways, Inc.	3
Chicago & Southern Air Lines, Inc.	2
Continental Air Lines, Inc.	1
Delta Air Corp.	2
Eastern Air Lines, Inc.	6
Mid-Continent Airlines, Inc.	2
Northeast Airlines, Inc.	2
Northwest Airlines, Inc.	4
Pennsylvania-Central Airlines Corp.	4
Transcontinental & Western Air, Inc.	6
United Air Lines, Inc.	7
Western Air Lines, Inc.	3
Hawaiian Airlines, Limited	2
Alaska Airlines	2
Pan American Airways System	8
Pan American-Grace Airways, Inc.	4
Total	73

Lockheed Lodestar Type

Blue Grass Airlines	1
Chicago Black Hills and Western	1
Fruehauf Trailer Company	1
Goodyear Tire & Rubber Company, Inc.	1
Grumman Aircraft Engineering Corp.	1
Hertz, John D.	1
Lockheed Aircraft Corporation	1
National Airlines, Inc.	8
Nevada Pacific Airlines	2
Northrop Aircraft, Inc.	1
Page Airways, Inc.	1
The M. A. Hanna Co.	1
Transcontinental & Western Air, Inc.	1
United Fruit Company	1
Yankee Sky Lines	1
Zimmerly Air Transport	1
Total	24

Foreign Allocations DC-3 type

Aerovias Braniff, S.A. (Mexico)	2
Aktiebolaget Aerotransport (Sweden)	5
Cia. Mexicana de Aviacion (Mexico)	3
Devlet Hava Yollari (Turkish State Airways)	3
Koninklijke Luchtvaart Maatschappij Voor Nederland en Kolonien, N. V. (KLM) (Dutch)	4
Panair do Brazil (Brazil)	4
Societe Anonyme Belge d'Exploitation de la Navigation Aerienne (Belgium)	3
Aerovias Nacionales de Colombia	2
Cia. Nacional Cubana de Aviacion (Cuba)	2
Cia. Mercantile Anonima Iberia (Spain)	3
Direction des Transportes Aeriens (France)	5
Lloyd Aero Boliviano (Bolivia	1
Royal Norwegian Air Transport	3
TACA Airways, S.A.	4
Total	44

Foreign Allocations Lockheed Lodestar

Canadian Pacific Airlines	3
Fauzi El Hoss of the Republic of Lebanon	3
Navegacao Aerea Brasileira (Brazil)	3
Expreso Aereo Inter-Americano (Cuba)	2
Linea Aeropostal Venezolana (Venezuela)	3
Total	14

Northwest Airlines Plans 10% Cut in All One-Way Fares

Northwest Airlines plans to file with the CAB a revised tariff calling for a cut of approximately 10 percent in all one-way fares, with an additional 5 percent off on round trip tickets. The tariff will be effective May 1, Croil Hunter, NWA president says.

Hunter said the proposed 10 percent reduction will bring Northwest's passenger fares down to slightly more than 4½c a mile. The new rates will be effective on Northwest's routes between Chicago, Milwaukee, Minneapolis-St. Paul, and the Pacific Northwest. He said the fares would be actually cut below first class railroad fares in some cases.

He estimated a fare of $122.50 for one-way air passage between Seattle and New York. This would be approximately $3.50 lower than train fare, including pullman, between those points. Passengers in addition would be saved the cost of meals, since no charge is made for food on NWA planes.

Northwest's proposed tariffs will cut the one-way fare between Chicago and Seattle or Portland from $99 to $89.75, and round trip fare between these cities from $198 to $170.55. The reduction between the Twin Cities and Chicago would be from $16.50 to $14.95 for one way and from $33 to $28.40 round trip. One-way fares between Minneapolis-St. Paul and Seattle or Portland would be reduced from $82.50 to $74.89, between the Twin Cities and Spokane, from $68.80 to $62.40, between the Twin Cities and Milwaukee from $14 to $12.70, between Chicago and Spokane from $85.30 to $77.35.

Heads 'Aircraft Advisors'

E. Warren Pullen has been elected president of Aircraft Advisory Service, Inc., 51 N. High Street, Columbus 15, Ohio and will assume complete charge of the company's engineering and advisory service.

Justice Department Recommends Denial of 5 Steamship Petitions

THE Department of Justice has recommended that the applications of five steamship companies in the CAB's Latin American case (Docket 525 et al) should be dismissed and the Board should authorize competing service to Pan American Airways if conditions warrant.

In its brief in the Latin American case, the Justice Department holds that competition between airlines and steamship companies cannot be expected if either "(1) the steamship company itself conducts operations as an air carrier; (2) the steamship company owns a subsidiary corporation which operates the air service; or (3) the steamship company and the airline are separate units but both are controlled by the same owner, such owner being either a single individual or a holding company or a group of persons owning the controlling stock interest in both the steamship company and the airline."

The steamship companies recommended for denial were Grace Line, United Fruit Co., Waterman Steamship Corp., Moore-McCormack Lines, and Atlantic Gulf and West Indies Steamship Lines. United Fruit withdrew from the proceeding after the hearing.

With respect to Pan American's monopoly in Latin America the Justice Department asserted that "it should be remembered that Pan American's monpoly is not a vested right, which may be asserted against competitors or the regulatory body having jurisdiction over air transportation. The monopoly of certain traffic by a particular carrier is simply a privilege to be enjoyed as long as it lasts, but not a prerogative which this Board is powerless to touch."

The brief noted that Pan Am's position was that it would be uneconomic to operate additional lines using the new types of very large aircraft proposed if additional service were certificated by the CAB, but the Justice Department held that "notwithstanding this testimony by Pan American witnesses, competing service should be authorized, if the Board finds that the public convenience and necessity will be served thereby."

The examiners' report in the case also recommended competition for Pan American, holding that Pan Am's fear of foreign flag competition would have no great bearing on U. S.-Latin American traffic.

The examiners' report held that "quality and progressiveness of Pan American's service in the past has been challenged," and pointed out that it was slow in modernizing its communications system, developments in air transport in Latin America had failed to keep step with the domestic system, schedules were operated on less than daily frequency, fares were generally higher than those for first and cabin-class steamer travel, and that operating costs of Pan Am were higher than those of the domestics.

The report held that while "the achievements of Pan American in pioneering and developing trunk line air transportation services in the unchartered air lanes of Latin America must be recognized," the carrier's arguments for retention of its monopoly "fall far short of accounting for the entire gap in quality and progressiveness between Pan American and the domestic carriers."

The present high state of efficiency of the domestic carriers "stand as a tribute to the effectiveness of the competitive system," the report states. "To the extent that the service (Pan Am's) fails to meet the high standards of the domestic system, it is reasonable to conclude that the introduction of a competitive force would result in an improved service."

With respect to the five steamship companies, the examiners concluded that none of the proposals "is limited to using aircraft in a manner only auxiliary, supplementary, or incidental to the existing steamship service, and therefore none of them can meet the requirements of the second proviso of section 408 (b) (of the Civil Aeronautics Act) that the proposed air service enable the applicant to use aircraft to public advantage in its operation." The examiners also recommended that the applications of American Export Airlines, Chicago & Southern, Colonial Airlines, Delta Air Corp., and National Airlines be denied.

WAL May Open New Denver-Los Angeles Route, Says Board

The Civil Aeronautics Board has authorized a change in the war service pattern to permit Western Air Lines to begin operations over its newly certificated route between Denver and Los Angeles.

Western officials say that the initial operation will be limited to all-mail and cargo flights with DC-3 equipment. Passenger service probably will not be started until four-engine equipment is available because of the mountainous terrain traversed by the route.

Airway navigational facilities have not been completed over the route by CAA, but probably will be by next July 1. In the interim, Western would operate on a contact basis, starting the service as soon as DC-3 equipment, now in the company's shops in Los Angeles, can be converted for cargo and mail use.

In its request for authorization to open the route on this basis, Western pointed out to the CAB that the operation would not only relieve mail and cargo congestion at Denver and Los Angeles, but would give Western crews an opportunity to develop flight technique over the route.

Insulated Hangar at Eglin

A mammoth new insulated hangar in which temperatures can be regulated between 70 degrees below zero to 165 degrees above has been constructed at Eglin Field, Fla. It will be used to test B-29 Superfortresses and other heavy bombers in the conditions which may be encountered in combat service.

No Floor Set Under Airline Fares, CAB Chairman Declares

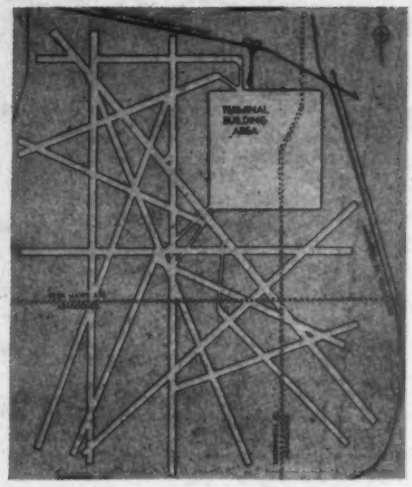
Chairman L. Welch Pogue of the Civil Aeronautics Board, has taken issue with a conclusion reached by the Argus Research Corp., 61 Broadway, New York, that further reductions in airline fares will drop below the present 5c level, but "will not be permitted to descend far below those charged by the railroads for first class travel."

Pogue told *American Aviation* that the CAB had established no such policy as placing a floor under airline passenger fares, but emphasized that the Board is anxious to get airline costs to the traveling public down as low as possible and "as quickly as possible."

The Argus report asserted that "certain airline fares are now down close to the so-called 'Pullman' level, and no further important reductions would be counseled by the CAB that would endanger Pullman's rate structure. In effect, the railroads are placing a 'floor' on airline passenger rates which will lead inevitably to strong pressure on railroad business."

"It is our feeling," the Argus report continues, "that the airlines will not be requested to lower fares but that all companies will reduce them voluntarily and to a degree which may require some restraint from the CAB because of undesirable repercussions which might come from the nation's railroads. The potentialities for further passenger diversion away from the railroads are unquestionably very substantial."

Pogue pointed out that he has answered these assertions in recent speeches, particularly the one delivered at the National Aviation Clinic in Oklahoma City.



Chicago Tribune

Chicago Airport Site— A Committee of airlines engineers has advised the Chicago Plan Commission that the Douglas Airport, northwest of the city, would be the best site for Chicago's postwar terminal. The site, now used for testing C-54 Skymasters built at the Douglas-Chicago plant nearby, is spotted on the above map. The Plan Commission studies indicate that any further enlargement of the Chicago Municipal Airport on Cicero Avenue, several miles southwest of the city's loop, would be uneconomical and impractical. However, the terminal now under construction at the latter location will be completed and the present field is expected to handle the volume of traffic predictable for five years after the war.

U. S.-South African Route Not a Public Need, Brief Asserts

Public convenience and necessity do not require the establishment of an air route between the U. S. and South Africa, according to the brief of Public Counsel Russell S. Bernhard submitted to the examiners in the CAB's South Atlantic case (Docket 1171 et al).

On the assumption, however, that national defense and diplomatic considerations "will be sufficient to justify the certification of a route between those areas, public counsel recommends that the examiner and the Board find that the public interest and the public convenience and necessity require the following:

"1. That a route between New York and Johannesburg, via the Azores, Dakar, Monrovia, Accra, and Leopoldville be certificated;

"2. That Pan American Airways, Inc., be authorized to operate the route so certificated."

Bernhard held further that a route between South America and Europe can be certificated by the Board "only if, and solely upon the ground that such a route is required by the national defense. If such a route is certificated, it is the recommendation of public counsel that Pan American be the carrier authorized . . ."

Of all of the routes tentatively found to be desirable by the Board for international operations in its announcement of June 14, 1944, the U. S.-South Africa route "is relatively the weakest, so far as economic considerations are concerned. The populations served are substantially smaller, and the foreign trade and mail are substantially less than those along any of the other routes."

"In fact, the conclusion may fairly be drawn that the proposed South Atlantic route is essentially a route to connect the United States with the Union of South Africa, the intervening seven or eight thousands of miles being almost as devoid of traffic generating possibilities as over-ocean flying."

Bernhard concluded that with DC-4 equipment, and with no more than two schedules a week, "the subsidy required from the government will be well in excess of $1,000,000 per year, and may well approach $2,000,000 a year. With larger equipment, or more frequent schedules, or both, the subsidy required could be expected to be even higher."

With respect to the various applicants, Bernhard recommended that the applications of U. N. Airships, Seas Shipping Company, American South African Lines, Pennsylvania-Central Airlines and American Export Airlines be denied.

U. N. Airships, the brief held, has shown neither fitness nor ability to operate the route, nor a feasible operating plan, while the steamship companies had not shown that they would operate aircraft as a service incidental or auxiliary to their surface operations.

Bernhard held that in view of Pan American's present operations on the routes at San Juan, Port of Spain, Belem, Natal and Lagens, it is the logical carrier to operate the U. S.-South Africa route. The brief also concluded that Pan Am was in the best position to offer effective competition to foreign flag carriers.

Braniff Asks Direct Memphis-Denver Line

BRANIFF AIRWAYS outlined proposals for a direct Memphis-Denver service in asking the CAB to lift present restrictions on its service to Pueblo, Colorado Springs and Denver at a hearing before Examiner F. A. Law, Jr., last fortnight.

Charles E. Beard, Braniff's vice president-traffic, said the restrictions were invoked primarily to prevent the carrier from operating a shuttle service between Denver, Colorado Springs and Pueblo in direct competition to Continental Air Lines, but that Braniff had no intention of inaugurating such a service.

The restrictions provide that service to Colorado Springs, Pueblo and Denver must be provided on flights originating or terminating in either Denver or Dallas.

Continental expressed opposition to lifting the restrictions on the grounds that they would further weaken Route 43, between Denver and Tulsa, a route which S. B. Redmond, Continental's attorney in charge of research, described as "an already weak route."

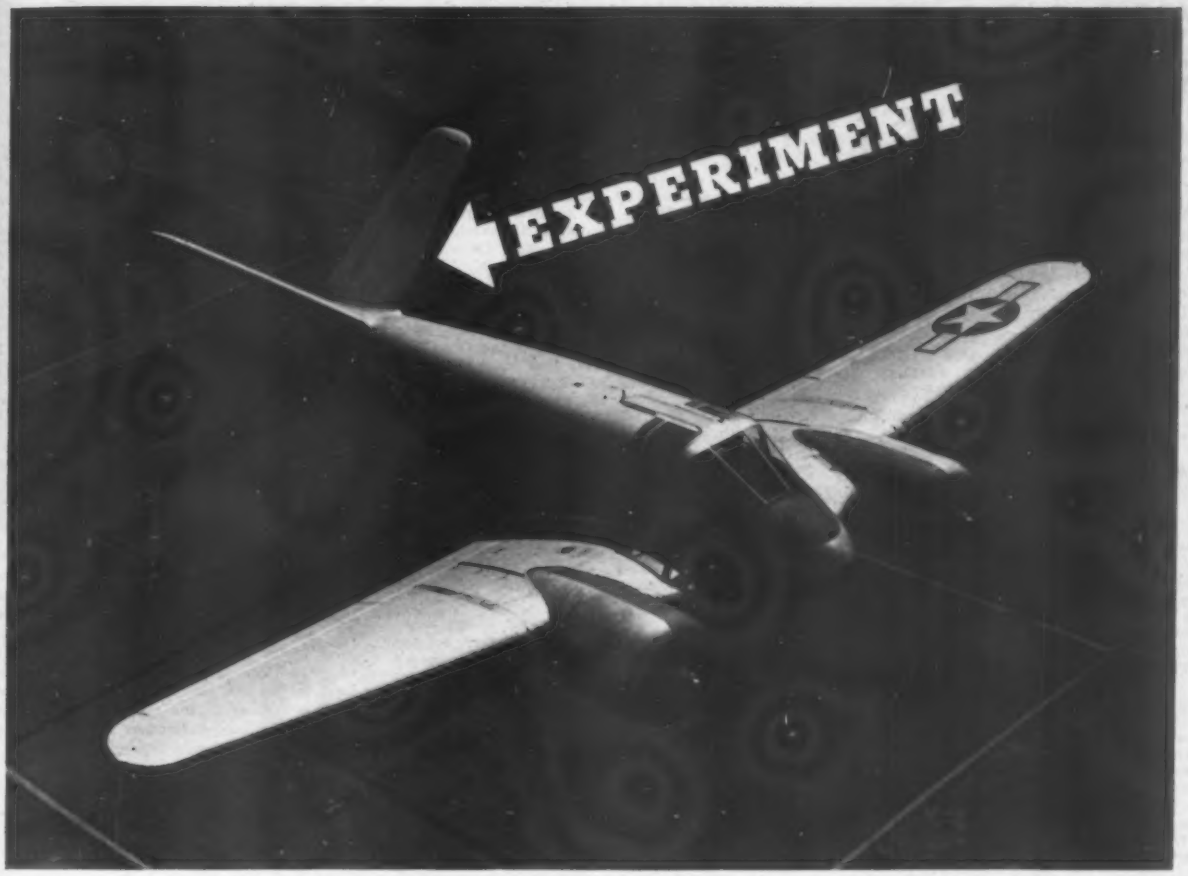
Redmond maintained that both Braniff's Route 15, between Dallas and Denver, and the recent extension from Oklahoma City to Memphis provided diversion to Route 43, and that, should the restrictions be lifted, Braniff's competitive position for Tulsa-Denver traffic would be further strengthened.

Redmond testified that the "backbone" of Route 43 is its terminal-to-terminal traffic, since the route covers a sparsely populated territory, and that such intermediate stops as LaJunta, Colo., Garden City and Dodge City, Kans., produced little air travel.

Beard maintained that the restrictions had resulted in some ferrying of aircraft when flights were cancelled at points outside Denver or Dallas, and that this arrangement had also interfered with Braniff's service to Oklahoma City.

Beard said that removal of the restrictions would in no way affect the Tulsa-Denver competitive situation because Braniff's route for such service was longer than Continental's by 64 miles.

Merle P. Lyon, public counsel, pointed out, however, that flight distances over the two routes was only 24 miles longer by Braniff. Beard replied that Continental could materially shorten its route miles between Denver and Tulsa by the use of a combination of Routes 43 and 60 via Hutchinson, Kans. Redmond said this route could not be used until after the war because much of it traverses Army bombing ranges in Kansas.



MANY research projects and experiments have been originated by Beech engineers since 1932. The results of their willingness to explore new fields are notable. The unique negative stagger Beechcraft biplane, long outstanding in its power class, is one. Another is the Model 18 all-metal twin-engine Beechcraft feeder airline and executive transport, an airplane which since 1936 has made such a record that thousands of these planes serve the armed forces as advanced trainers and personnel transports all over the world.

Since 1941, research at Beech Aircraft has had as its purpose the creation of improvements in aircraft designed for military use. Most of this research cannot be described, for obvious reasons. Something can be told, however, about the experiment pictured above—an AT-10 Beechcraft advanced trainer equipped with a unique two-element empennage which replaces the conventional tail group. Its successful flight tests have shown interesting possibilities.

Whether or not this particular experiment proves practically useful is unimportant. What does matter is the spirit behind such research—an aggressive exploratory spirit that is not confined by tradition and convention but is free to operate anywhere within the boundary of sound engineering principles. The Beechcrafts of the future undoubtedly will reflect the gains attained through such a program, and will offer to their owners, whether military or commercial, an extra degree of performance and value.

Beech Aircraft
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BEECHCRAFTS ARE DOING THEIR PART WICHITA, KANSAS, U. S. A.

CAB Docket Section Reports:

Several Air-Surface Alliances Up for Board's Consideration

APPLICATIONS for acquisition of control and approval of interlocking relationships between air and surface carriers highlighted developments in the CAB's Docket Section during the past fortnight.

The Detroit-Chicago-Cleveland-Dayton-Miami area received a major share of attention in new route applications, with five presently certificated carriers filing for extensions.

Following is a roundup of the applications filed:

Braniff Airways

This presently certificated carrier has filed an application with the CAB seeking acquisition of control of Kansas City Airways, a Missouri corporation organized to engage in air transportation on routes within the Kansas City trade area. The application states that total authorized capital stock is $500,000, with the initial offering of $100,000 having been subscribed. Braniff holds 25% of the outstanding capital stock.

The application states that Braniff intends to retain 25% of the stock, and have one member on the board of directors. This minority interest, the application says, will give Braniff no right to control the management of Kansas City Airways, with all relationships between the two companies being conducted as if there were no participation by the applicant in the ownership of the trade area line.

This is the seventh of the so-called Braniff trade area feeder lines for which the carrier has applied for acquisition of control. The others are Frontier, Houston, Oklahoma, Texas-Central, Great Plains and Lone Star Airways. (Docket 1791).

Braniff also has filed an application with the CAB seeking either a permanent certificate or amendment to Route 9, authorizing service between Chicago and Detroit, via South Bend, Ind. (Docket 1794).

Chicago & Southern Airlines

This carrier has filed an amendment to its application under Docket 1074, requesting three routes between Omaha, Neb., and Miami, Fla.

Delta Air Corp.

This carrier has filed an application with the CAB to extend Route 54 between Cincinnati and Cleveland-Detroit via Columbus and (a) beyond Columbus to Akron-Canton and Celevland and (b) beyond Columbus to Detroit via Toledo. (Docket 1796).

Eastern Air Lines

This carrier has filed an application with the CAB seeking an extension to Route 10 north from Louisville, Ky., to Detroit, via Cincinnati, Covington, Middletown, O., Dayton, Springfield, Columbus, Piqua, Lima, Findlay and Toledo; and to extend Route 10 from Louisville to Cleveland via Cincinnati, Covington, Middletown, Dayton, Springfield, Columbus, Marion, Mansfield, Ashland, and Akron-Canton, and to amend Route 10 to include service between Nashville and Chicago, via Evansville and Terre Haute, Ind. (Docket 1795).

Pennsylvania-Central Airlines

This carrier has filed three applications with the CAB seeking (1) a new route between Pittsburgh and Memphis, via Columbus, Cincinnati, Louisville and Nashville (Docket 1788), (2) a new route between Cleveland and Chicago and/or an extension of service to Cleveland and Chicago by extending Route 14 from Cleveland (1789), (3) a new route from Pittsburgh to Chicago and/or an extension of service between Pittsburgh and Chicago by extending Route 14 from Pittsburgh (1790).

Cincinnati & Lake Erie Transp. Co.

This applicant of Dayton, O.; The King Brothers Co., of Cincinnati, and the Ohio Bus Co., of Cincinnati, have filed an application with the CAB seeking approval of the acquisition of control of Dayton and Western Ohio Airlines, an Ohio corporation, which has filed an application for air routes in Ohio. The three companies state that they own all of the stock of the airline. (Docket 1792).

Expresso Aero Inter-Americano Agency

This carrier has filed an application with the CAB seeking an amendment to its temporary foreign air carrier permit to allow for the transportation of mail between Cuba and the U. S.

The Hanava carrier was issued a temporary foreign air carrier permit May 1, 1943, for the transportation of property only. The permit has been extended for three months periods since that time. The carrier operates between Rancho Boyeros Airport, Havana, and Miami. (Docket 1787).

Ohio Air Express Corp.

This applicant, of 1086 Castlegate Rd., Columbus, O., has filed an application with the CAB for 11 routes in Indiana, Ohio, Pennsylvania, Kentucky, West Virginia, and Michigan. The routes and their terminals:

(1) Detroit-Cincinnati, via 7 intermediate points; (2) Louisville-Erie, Pa., via 9 intermediate points; (3) Indianapolis-Pittsburgh, via 8 intermediate points; (4) Louisville-Erie, via 10 points; (5) South Bend-Louisville, four points; (6) Detroit-Lexington, Ky., 7 points; (7) South Bend-Pittsburgh, 9 points; (8) Indianapolis-Cleveland, five points; (9) Cleveland-Pittsburgh, four points; (10) Columbus-Parkersburg, W. Va., one point; Columbus-Cincinnati, one point. (Docket 1797).

Richard W. Putnam-I. V. Bartlemay

This partnership of 90 S. Main St., Hanover, N. H., has applied to the CAB for two routes over which it proposes to operate scheduled air transport for pick-up mail and property. The routes consist of loop routes out of Springfield, Mass., one serving 20 pick-ups, and the other 16 pickups. (Docket 1786).

Red Star Way, Inc.

This company, an applicant for air routes in Ohio and West Virginia, has applied to the CAB for approval of interlocking relationships with the Wheeling, St. Clairsville and Cambridge Transportation Co., of Clairsville, O., and with the Red Star Transportation Co., St. Clairsville. The Wheeling company holds 4000 common shares and Red Star 200 preferred shares of the airline.

Approval is also sought for the interlocking relationships of E. W. Smith, president of the Wheeling company, and a director of the bus company and airline; E. E. Leatherwood, president of the airline, and a director of the other two companies; Stella Hill, a director of the three companies; J. H. Christy, president of Red Star Transportation Co., and a director of the other two companies; A. L. McFarland, vice president of the airline, and a director of the other two companies; A. E. Hart, secretary-treasurer of the airline, secretary of the bus company, and a director of the Wheeling company. (Docket 1793).

PCA's 2,000,000th— The two millionth passenger to fly via Pennsylvania-Central Airlines since the company was founded 18 years ago was Ensign L. E. Baxter, a dive-bomber pilot. He is shown being greeted by Hostess Doris Spoerer in Washington before taking off for Chicago. PCA is one of five airlines in the world that have carried two million passengers since beginning commercial operations.

First of CAB Alaskan Conferences Opens In Anchorage on April 9

The CAB's investigation into Alaskan operations will get underway in Anchorage April 9 when the first of three informal conferences will be held with Territorial operators. Other conferences will be held at Fairbanks April 16, and at Juneau, April 25.

Raymond W. Stough, special assistant to the CAB, will conduct the conferences and general investigation. Stough has left Washington for Alaska, and will headquarter at Anchorage.

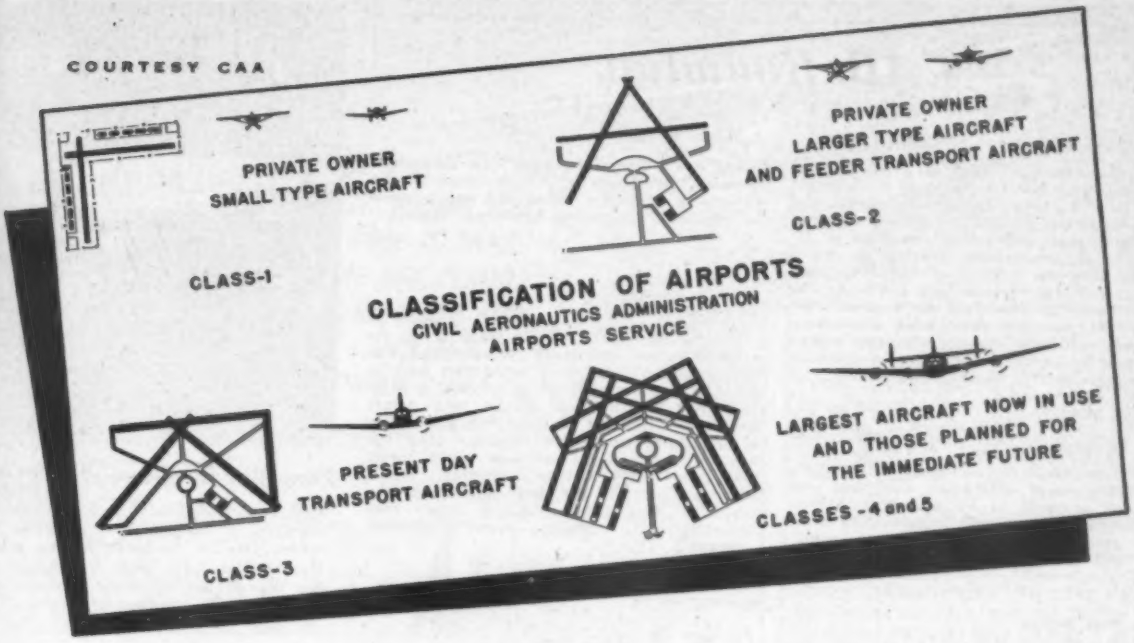
Russell C. Schumacher-K. H. Erickson

This partnership of New England, N. D., has filed an application for a route wholly within North Dakota between the terminals, New England and Bismarck. Intermediate points named are Regent, Mott, Elgin, Carson and Flasher. (Docket 1784).

Spartan Aircraft Co.

This applicant of Tulsa, Okla., has filed an application with the CAB for approval of its control of Spartan Airlines, a Delaware corporation which has applied for 11 routes in Missouri, Louisiana, Kansas, Texas, and Oklahoma.

The application states that Spartan Aircraft made an agreement with the airline to furnish $10,000 to finance the latter's organization costs, and that it has agreed to provide the airline with maintenance service and hangar space at cost. Spartan Aircraft also agreed to purchase $500,000 of the airline's non-voting stock, and to purchase an additional amount of non-voting stock up to $500,000. In return the airline was to issue Spartan Aircraft 75% of the total authorized voting stock.



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CAB Roundup

Special Regulation

The Board has promulgated a special civil air regulation under Part 04 to be effective after Oct. 31, 1945, which will require that the fuel systems of all air carriers equipped with more than one engine "shall be so arranged as to permit their operation in such a manner that the failure of any one component of a fuel system will not cause the loss of power of more than one engine." The Safety Bureau said that most commercial transport craft now comply with this regulation, but that some airlines have in operation twin-engine aircraft which are dependent on a single fuel system.

Date Extended

The date for filing notice of objections to the CAB's recent show-cause order has been extended to April 13 for Caribbean Atlantic Airlines, at the applicant's request. The show-cause proceeding is designed to set a permanent rate of mail pay for the carrier.

TWA Files Notice

Transcontinental & Western Air has filed notice with the CAB that it proposes to inaugurate non-stop service between Washington and Dayton, O., on Flight 3, effective April 1.

May 28 Tentative Date

Examiner Ross I. Newmann has set May 28 as the tentative hearing date for the Southeastern States case (Docket 501 et al). Date for exchange of exhibits has been extended to May 1, with rebutial exhibits due May 21.

Briefs Due April 24

CAB Examiner Thomas L. Wrenn has announced that briefs in the Texas-Oklahoma case (Docket 337 et al), recently concluded in Ft. Worth, will be due April 24. Filing of briefs will be optional with the respective counsel.

Port Authority Files

The Port of New York Authority has filed briefs with the CAB recommending establishment of a direct, one-carrier air route between New York and South and West Africa. The route would run from New York to Capetown, Union of South Africa, via Horta, the Azores; Monrovia, Liberia; Leopoldville, Belgian Congo, and Johannesburg, Union of South Africa. The Port Authority has also recommended establishment of a direct, non-trunkline air service between various communities of New England and eastern New York state, and New York City.

Pogue Speaks

Chairman L. Welch Pogue was principal speaker at a Maine State Aviation Conference at Augusta, March 28. He conferred with state aviation leaders at Portland before going to Augusta, where his schedule included an address to the Maine state legislature. He was the guest of Gov. Horace A. Hildreth.

Lease Approved

The Board has approved a lease agreement of a field post office at Denver municipal airport between the city and county of Denver and Continental, United and Braniff Airways.

Sublease Allowed

The Board has approved a lease agreement between United and Inland Air Lines for the subleasing of ticket office and cargo space to Inland at Cheyenne municipal airport.

Woodley Hearing Set

Hearing has been set for April 3 on the application of Arthur G. Woodley for the approval of a transfer of certificates held in Woodley's name to Woodley Airways, a partnership. The hearing, to be held before Examiner William J. Madden, will amount to a procedural matter to stipulate that the record in the mail rate case heard under Docket 864 apply in this proceeding. Woodley was a party to the latter proceeding, and seeks to have any certificates which may come out of that hearing issued to Woodley Airways.

Petitions Denied

The Board has denied the petitions of Delta Air Corp. and three other parties for reconsideration of decision granting Mid-Continent Airlines a new route from Tulsa, Okla., to New Orleans. The Board held that after consideration of all matters set forth in the petitions, that the grounds set forth were insufficient to grant reconsideration. In addition to Delta's, the petitions of the city of El Dorado, Ark., the chamber of commerce of Monroe-West Monroe, La., and jointly the cities of Little Rock and El Dorado were denied.

Interlocking Setup OK'd

The Board has approved an interlocking relationship between All American Aviation and Frank M. Donohue, permitting Donohue to serve as a director of the air carrier while also a director of Wilson Line, Delaware-New Jersy Ferry Co., and Virginia Ferry Corp.

New Air Services

Aerovias Braniff Inaugural

Aerovias Braniff, Mexican airline associate of Braniff Airways, will inaugurate its first schedule April 4 between Mexico City and Nuevo Laredo, via Ciudad Victoria. The schedule will make direct connections with Braniff Airways at Nuevo Laredo.

Tw DC-3s recently allocated to Aerovias Braniff have been converted for commercial use on the Mexican line. Six additional aircraft are on order for Aerovias, and as soon as the equipment becomes available, service will be inaugurated on the Mexico City-Los Angeles, Mexico City-Havana-Miami and Mexico City-Central America-Panama routes.

CAB permits would be necessary, however, before Aerovias Braniff could operate into the U. S. on either the Mexico City-Los Angeles or the Mexico City-Miami routes. Braniff Airways and T. E. Braniff have asked the CAB to approve the acquisition of control of Aerovias Braniff, but the examiner has recommended against both acquisitions. The Board has taken no final action in the matter.

Penicillin by Plane— A consignment of penicillin, fresh from E. R. Squibb & Sons', New Brunswick, N. J., laboratories, is shown being loaded into an American Airlines plane in New York enroute west in anticipation of the War Production Board's release of the drug for general civilian use.

Radio facilities and ground equipment have been installed and will be ready for the inauguration of operations on the Mexico City-Nuevo Laredo route. Flight personnel have been in training at the Dallas base of Braniff Airways since last July. Ground personnel and radio operators are completing training in Mexico City.

Aerovias Braniff hopes to open its Mexico City-Merida route within one month.

Bluegrass Continues Two Routes

Bluegrass Airlines has been authorized by the Kentucky Aeronautics Commission to continue service on two routes, one between Paducah, Madisonville, Owensboro and Louisville and the other from Bowling Green, Louisville and Lexington to Ashland. A "grandfather clause" requires such authorization for lines in operation when the commission was activitated last June. Headquarters are at Russellville. The line operates with four planes and is owned by B. M. Stuart and Sons.

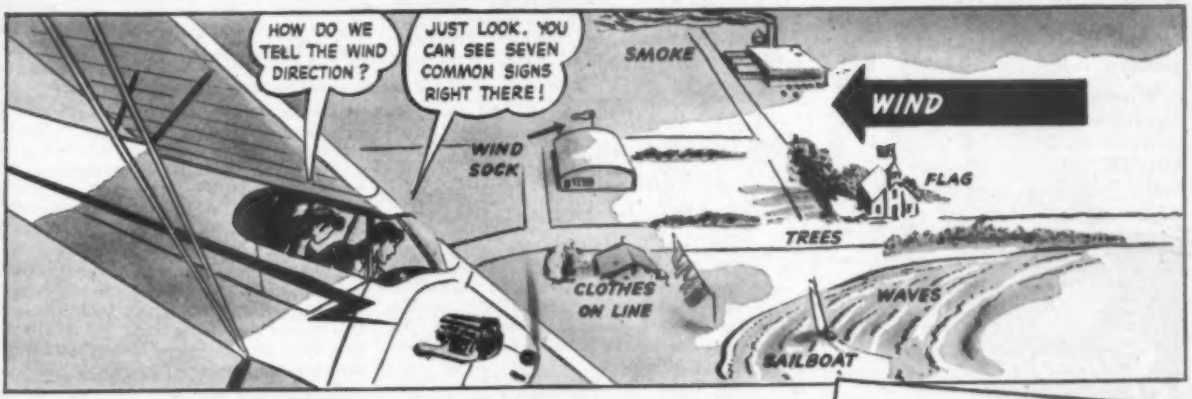
UAL to Enter New England

United Air Lines will open direct service into New England May 1, subject to approval of the Civil Aeronautics Board. Two daily round trip, coast-to-coast flights are planned between Boston, Hartford, Cleveland, Chicago and points west to all major Pacific Coast cities. Additional flights will be scheduled as equipment becomes available. New office space has been leased for ticket sales in both the Boston Statler and Hartford's Hotel Bond. Operating facilities also are being established at both cities.

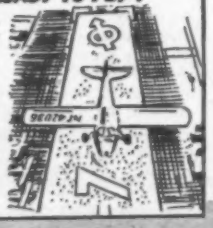
PCA Starts Express Flights

Pennsylvania-Central Airlines incorporated additional service over the Chicago-Washington airline on March 1. The new trips are express-type flights, rounding out the recently revised schedules that became effective when PCA opened its nonstop Detroit-Chicago route. Adding an evening departure from Chicago, this flight is the last plane to leave the Chicago airport that permits arrival in Washington

Booklet contains over 50 step-by-step photos and descriptions, full-color pictures of Piper Cubs, color drawings of instrument panel and controls. For your copy, write Piper Aircraft Corporation, Dept. AA45, Lock Haven, Pennsylvania. Enclose 10c in stamps or coin for postage-handling.



IS YOUR TOWN READY TO FLY?



It should plan landing facilities now—for its citizens and its future. The booklet, "What Your Town Needs for the Coming Air Age," illustrates various types. It covers benefits, where to build and how to start. For your free copy, write Piper Aircraft Corporation, Dept. AA45W, Lock Haven, Pennsylvania.

NOTE: *This lesson and others that will follow explain only the fundamentals. See your Piper Cub dealer for actual flying instruction.*

★ ★ ★

FILMS AVAILABLE

Movie films that will be a great help in teaching the fundamentals of flying and plane construction are available to you. Interesting, clear, instructive sound narration. Write us for information describing films on "How to Fly" and "The Construction of a Light Airplane."

PIPER AIRCRAFT CORPORATION
LOCK HAVEN, PENNA.

PIPER CUB

Points the Way to Wings for ALL Americans

before midnight. It makes but one stop, at Detroit, en route.

Another new flight benefits essential air-travelers, leaving Norfolk and Washington for the West each afternoon. Leaving Norfolk, the plane augments PCA's present frequent Washington-bound flights; from Washington, it provides new high-speed service to Pittsburgh and Detroit, where it connects with a nonstop Chicago flight.

CAL Resumes Hutchinson Stop

Continental Air Lines service to Hutchinson, Kans., was resumed March 1. Hutchinson, on Continental's Denver - Pueblo - Wichita - Tulsa route, has been without scheduled air transportation service since last May, when its air field was closed to allow extensive improvements. The field was approved recently as suitable for use with the 21-passenger Douglas airliners which Continental is now operating over the Denver-Tulsa route. When Continental was serving Hutchinson last year, 14-passenger planes were used.

AA Every Hour—On the Hour

American Airlines schedules between New York and Boston have been revised to permit departures of passenger planes from each city every hour on the hour from 7 a. m. to 11 p. m. An additional eight flights each way at off-hour periods bring the total daily flights each way to 25.

PCA Reopens Washington-Buffalo

Pennsylvania-Central Airlines was scheduled to reopen its Washington-Buffalo route via Harrisburg and Baltimore on April 1. PCA plans to inaugurate service with a daily round trip leaving Washington for Buffalo each morning and returning in the afternoon. The present schedule of flights between Washington and Buffalo via Erie and Pittsburgh will be continued.

NAL's Proposed Route Jacksonville-to-Miami 'Would Benefit 30,000'

National Airlines witnesses testified in a CAB hearing last fortnight that the company's proposed non-stop operation between Jacksonville and Miami would benefit 30,180 passengers annually by bettering National's service between New York and Miami.

J. C. Brauner, assistant to the president of National, told CAB Examiner C. C. Henderson that the non-stop authority would cut the time between New York and Miami by an hour, and would result in an equal saving of time for New Orleans-Miami traffic.

E. Smythe Gambrell, Eastern Air Lines counsel expressed opposition to National's application on the grounds that National had given no consideration to Eastern's existing service between Miami and Jacksonville, which could be utilized to benefit the New York-Miami traffic.

In a statement of Eastern's position, Gambrell said the burden of proof of proving public convenience and necessity rests with National in the case, since the non-stop authority involves duplication of Eastern's existing service. William I. Denning, National counsel, took issue with this stand, asserting that public convenience and necessity between Jacksonville and Miami had already been proved by virtue of the existing routes.

TWA Wants Non-Stop Detroit—to—St. Louis Line, Missing Dayton

T. B. Wilson, chairman of the board of Transcontinental & Western Air, testified in a recent hearing before Examiner H. Heinrich Spang that TWA wanted to institute non-stop service between Detroit and St. Louis to provide one-carrier and improved service between those cities.

In response to a question from V. Rock Grundman, public counsel, Wilson said TWA did not anticipate any reduction in fares if shortening of the Detroit-St. Louis route was granted. Wilson said the non-stop service simply would provide an improvement in the present service between the two cities, which now moves via Dayton, O.

J. C. Stratton, TWA's executive assistant in charge of route development, said his company wanted to improve its mileage advantage on Detroit-West Coast business, which had been cut by American Airline's recent Oklahoma City cut-off on its transcontinental route. The non-stop authority would cut TWA's mileage by approximately 100 miles between Detroit and St. Louis.

Equipped for Night Flying

Under questioning from Jack Zevely, American counsel, Stratton said that navigational facilities were available on the proposed cut-off for instrument and night operations. The witness also admitted under quesctioning that the shortest route from Detroit to St. Louis is via Chicago, but that such a routing requires two-carrier service.

Charles A. Rheinstrom, American's vice president-traffic, charged that TWA actually sought to consolidate services over two separate routes—Routes 58 and 2—in its application, and thus escape the junction point at Dayton. The result, he said, is the same as two new route applications.

TWA maintained that it seeks to improve service over Route 58 only by the non-stop, but Rheinstrom took issue with this claim, asserting that TWA wants to improve service over a combination of the two routes.

Rheinstrom said the non-stop operation must be judged on how many people will benefit, then pointed out that the majority of Detroit-St. Louis traffic flows via Chicago. TWA's application, he said, attempts to accomplish something which is not in the nature of the purpose of Route 58—that is that it was laid out in two segments, one to serve Detroit-Toledo-Cincinnati traffic, and the other to serve Cincinnati-St. Louis traffic.

Should the non-stop authority be granted, the result would be substantial diversion to American, he said.

Air Express Encouraged

Walker-Jimieson, Chicago radio and electronic distributor, is now paying one-half the air express charges on each shipment of three pounds or less to encourage its customers to request shipment by air express.

A set of Golf Clubs will show you . . .

Why You'll Want This "Propeller with a Brain" On Your Private Plane of Tomorrow

Yes Sir! To perform at his best, any golfer needs a set of clubs . . . not just one. Because each club has a different pitch . . . meets the ball at a different angle . . . so the golfer can vary his clubs to meet varying conditions and shoot a whale of a lot better game.

Likewise, to perform at its best, any airplane needs a propeller that varies its pitch . . . varies the angle at which it meets the air . . . so it can deliver peak efficiency under varying conditions of flight. And that's why you'll want an Aeromatic! *It's the one and only propeller that varies its own pitch . . . automatically . . . without instruments or controls.*

In terms of performance for your postwar plane, Aeromatic means one-fourth shorter takeoff runs . . . one-third higher rate of climb . . . cruising faster and farther at the most favorable altitude . . . all with minimum fuel consumption and engine wear. And it means long glides for happy landings . . . with an instantaneous change of pitch for a quick pickup if you overshoot the field.

If you fly, or plan to fly, you'll want an Aeromatic Propeller on your plane. Write to your aircraft manufacturer about it today. And if you'd like our little get-acquainted folder, containing a diagram of the "brain" in an Aeromatic Propeller, don't hesitate to write to Aeromatic, 224 Scott St., Baltimore 3, Md. We'll be glad to hear from you.

The Propeller with a Brain for Tomorrow's Plane

Aeromatic

Air Controlled *Automatic Propeller*

KOPPERS COMPANY, Inc., BARTLETT-HAYWARD DIVISION

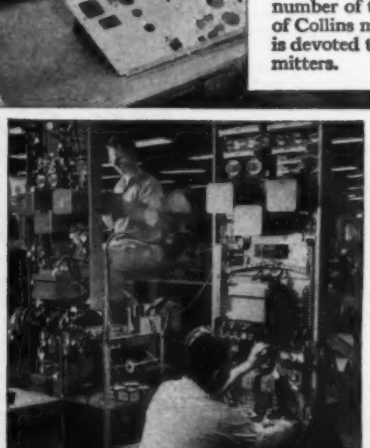
Licensed under patents of EVEREL Propeller Corporation

People who make Collins Radio

A few of the more than 3000 specialists who design and produce high quality radio communication equipment in the Collins plant.

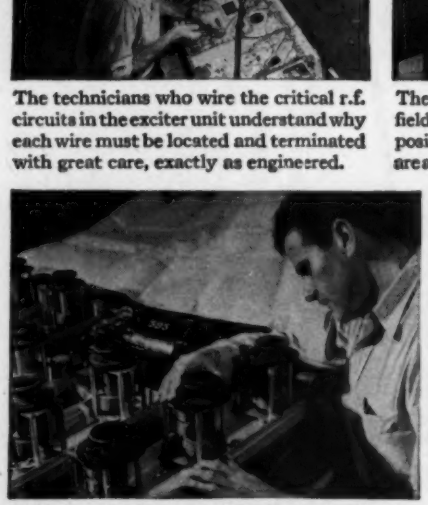
Collins workers have a personal interest in radio. Many of the men have long been radio amateurs and a large number of the women are mothers, wives or sweethearts of Collins men now in the Service. This part of the plant is devoted to the assembly of large ground station transmitters.

The technicians who wire the critical r.f. circuits in the exciter unit understand why each wire must be located and terminated with great care, exactly as engineered.

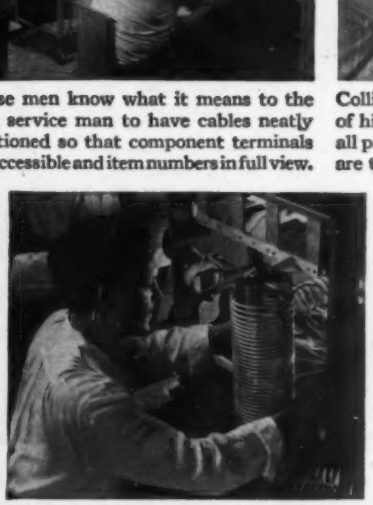


These men know what it means to the field service man to have cables neatly positioned so that component terminals are accessible and item numbers in full view.

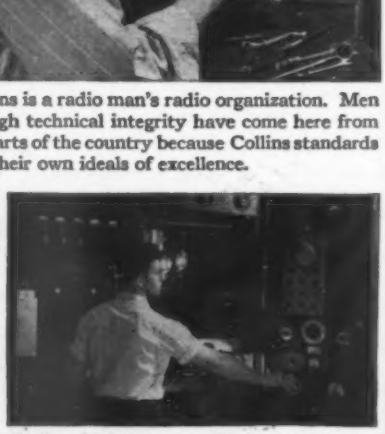
Collins is a radio man's radio organization. Men of high technical integrity have come here from all parts of the country because Collins standards are their own ideals of excellence.



Skilled mechanics assemble and synchronize the heavy duty Autotunes used on the output network of the 3000 watt Collins 231D ground station transmitter.



First line craftsmen assemble the Collins pi output network, which matches into a wide variety of single wire and vertical antennas.



Collins final-test men check every transmitter function critically, from the operator's point of view.

IN RADIO COMMUNICATIONS, IT'S . . .

COLLINS

Collins Radio Company, Cedar Rapids, Iowa; 11 W. 42nd St., New York 18, N.Y.

North Central Case

Twenty-Six Applicants Present Route Proposals at Des Moines

Feeder vs Trunkline Controversy Fails to Develop at Hearing

TWENTY-SIX trunk and feeder line applicants presented proposals for a variety of air service in the CAB's North Central case in Des Moines last fortnight, but the usual feeder vs. trunkline controversy failed to develop when Examiner F. Merritt Ruhlen ruled that no distinction would be made between the two types of service for purposes of the hearing.

The hearing covered new route applications in the area comprising Iowa, Minnesota, North and South Dakota, Montana, and parts of Illinois and Wisconsin.

Among impartial witnesses testifying was Roy M. Martin, deputy second assistant postmaster general, who said that of first class mail developed by the 650 towns and cities involved in all applications in the proceeding, at least 80 to 85 percent of the mail from a community is posted at the close of the day's business for dispatch in the early evening.

Martin said he could not estimate the percentage of mail now sent by air. Night routes are more valuable for quick mail service than day routes, he said, but he expressed the belief that communities would adjust themselves to departure of mail planes whenever scheduled.

American, Chicago & Southern, Eastern, and Pennsylvania-Central Airlines outlined proposals for service into the Twin Cities-Milwaukee area, with Charles A. Rheinstrom, vice president-traffic of American, asserting that freight revenues eventually would exceed passenger income to the airlines.

Carleton Putnam, C & S president, urged that the CAB allocate lucrative routes to airlines which lack long routes, pointing out that a policy would assist companies in maintaining operations over less profitable segments of their systems.

C. Bedell Monro, PCA president, contended that the Twin Cities do not have adequate service to the east, and said that his company was the only one in a position to remedy the situation. He pointed out that the Twin Cities are the only ones of 62 larger communities in the country without direct air service to Washington.

Other applicants offered these proposals:

North Central Airways—Donald W. Pennertz, president, said his proposed six loop routes out of Alexandria, Minn., would provide passenger service to some 20 small cities and pickup mail and express service to 100 towns. He asked for a connection between his system and a trunkline carrier.

Midwest Airways—V. G. Carlsen, assistant to the president, predicted a vastly increased demand for air service in the Midwest territory, forecasting a 270 percent increase between Milwaukee and Chicago in September, 1946, as compared with 1940.

Central States Aviation Corp.—Ryal Miller, president, testified that mail pay of 32.9c a mile would be necessary to break even during the first year's operation; 27.2c for the second year on six feeder lines, five of them of a loop type to serve some 20 towns in Iowa, South Dakota, Nebraska and Minnesota.

Wisconsin Central Airlines—Francis M. Higgins, president, said his company proposed to use ski or float type equipment for landing on ice and water on three routes to service the Chicago-Duluth-Milwaukee-Marquette, Mich., area.

Gen. Ryan Promoted

Brig. Gen. William Ord Ryan, commanding officer of the Pacific Division, Air Transport Command in Hawaii, has been promoted to major general. Gen. Ryan formerly commanded the 10th Pursuit Wing at Hamilton Field, Calif., and the Fourth Interceptor Command, Riverside, Calif.

Coulter Marks 10th Anniversary— Officials of Western Air Lines recently gave President William A. Coulter a silver model of the Douglas DC-6, now on order for Western's postwar operations, in recognition of his 10 years association with the airline. Leo H. Dwerlkotte, executive vice president (right), is shown making the presentation. Others in the picture are, left to right, Paul Sullivan, treasurer; C. N. James, vice president-operations; and Thomas Wolfe, vice president-traffic.

CAB Orders Affecting Air Carriers

3520—Amending certificate of American Airlines to consolidate Routes 7, 21 and the portion of Route 23 between New York and Albany into a single route to be known as Route 7.

3521—Dismissing applications of R.-B. Freight Lines (Docket 944), Chicago and Calumet Transit Co. (Docket 1616), Mercury Development Corp. (Docket 1623), and Hogan Flying Service (Docket 1353).

3522—Dismissing application of Aeronaves de Mexico (Docket 1752).

3523—Denying cities of Birmingham and Nashville permission to intervene in the Latin American case (Docket 525 et al.)

3524—Denying petition of State Airlines to amend applications under Dockets 673 and 1206.

3525—Granting city of Charleston, S. C., permission to intervene in the Great Lakes to Florida case (Docket 570 et al).

3526—Granting Eastern Air Lines permission to intervene in National Airlines application for non-stop authority between Jacksonville and Miami (Docket 1709).

3536—Granting state of Minnesota permission to intervene in the North Central case (Docket 415 et al).

3537—Denying petition of Hannaford Airlines in North Central case.

3538—Dismissing applications of Dixie Motor Coach Corp. (Dockets 1077-1525).

3539—Dismissing application of Plaza Express Co. (Docket 1626).

3540—Dismissing application of National Airlines (Docket 1107).

3546—Dismissing application of Western Air Lines (Docket 834).

3547—Granting American Airlines and Chicago & Southern Air Lines permission to intervene in TWA's application for non-stop authority between St. Louis and Detroit (Docket 1715).

3549—Approving lease agreement for field postoffice at Denver by City and County of Denver, Continental, United and Braniff Airways.

3550—Approving agreement between United and Inland Air Lines for subleasing ticket office and cargo space to Inland at Cheyenne Municipal Airport.

3551—Approving interlocking relationships between All American Aviation and Frank M. Donohue.

3552—Denying petitions of Delta Air Corp., city of El Dorado, Ark., Chamber of Commerce of Monroe-West Monroe, La.; and cities of Little Rock and El Dorado for reconsideration of Board's decision in Kansas City-Tulsa-New Orleans case.

Veterans to Get ATSC Jobs

A program endeavoring to place every interested discharged veteran of the Army Air Forces in a job with the Air Technical Service Command is announced by Lt. Gen. William S. Knudsen, director of the ATSC. The announcement points out that the ATSC is the largest employer of civilian personnel of any Air Force or Command, and explained that the discharged veterans are to be used to fill vacancies created by the draft and through normal turnover. In certain instances they will be eligible for specialized training in engineering, mechanics and inspection.

Lumpkin

Foreman

Executive

Stanley de J. Osborne and **Leslie P. Arnold** have been elected vice presidents of Eastern Air Lines. Osborne was formerly vice president of Atlantic Coast Fisheries and was assistant to Rubber Administrator William Jeffers in Washington in 1942 and 1943. Arnold recently resumed his pre-war duties as assistant to Capt. Eddie Rickenbacker, president of Eastern, after serving 20 months in England and France as an Army colonel.

Robert P. Foreman, secretary of National Airlines, has been named an executive assistant in connection with operations and traffic activities.

Traffic

Robert L. Neydon has been appointed DTM for Chicago & Southern Air Lines in Detroit, and is the first traffic representative to be employed by C. & S. for the new Memphis-Detroit route which the company expects to operate on the near future.

J. D. Culpepper, formerly Jacksonville, Fla., city traffic manager for National Airlines, has been appointed assistant to Robert P. Foreman, NAL secretary. **J. F. Lumpkin** succeeds Culpepper in Jacksonville.

Charles J. Cole, who has served Pan American Airways in Latin America, has been named assistant to the traffic manager of the Atlantic Division of PAA with headquarters at La Guardia Field.

W. H. McNeil, Jr., has been appointed station manager for Delta Air Lines at Knoxville, Tenn. He has been resident representative in Atlanta for Delta's military transport division.

Northwest Airlines announces the appointment of five chief transportation agents to serve in the company's eastern region. They are **Paul Benscoter,** Chicago; **C. R. Seybold,** Milwaukee; **W. F. McGoon,** Rochester, Minn.; **B. J. (Red) Fitzsimmons,** Minneapolis; and **E. V. Folkstad,** Fargo, N. D.

Miscellaneous

Capt. Robert N. Buck has been named system superintendent of flying of TWA succeeding Capt. George Rice, who has become one of 25 senior pilots assigned to Stratoliners.

George D. Rash, chief clerk of the traffic department of Continental Air Lines, has been appointed manager of schedules and tariffs.

Airline Personnel

Buck

Culpepper

Sullivan

Neydon

Osborne

Chas. Cole

Holmes

Vandegrift

Knoble

Knowles

McCullough

Brinkley

Pennsylvania-Central Airlines has reorganized its traffic department effecting the following changes: **Robert M. Brinkley** from traffic manager in charge of rates and schedules to assistant to the general traffic manager; **Edward Sullivan,** who has been in charge of passenger sales, to director of station sales; **Michael E. Cole** to manager of reservations; **Charles M. Knoble,** manager of air cargo and airmail sales, will continue in this work with title of director of air cargo sales; **James B. McCullough** from Detroit DTM to manager of interline and agency sales; and **Morris Knowles** from Southern regional traffic manager to manager of industrial sales.

F. M. Van Sickle, Pennsylvania-Central Airlines meteorologist, recently was awarded a $150 prize by the meteorology committee of the Air Transport Association for a paper entitled "The Causes and Forecasts of Low Ceilings and Visibilities at Cleveland Municipal Airport."

George P. Saunders, of the War Production Board's Division of Information, is to be named head of Western Air Lines' public relations office, it is reported.

Karl Dahlem, formerly secretary to the Governor of Missouri, has been appointed New England regional director of public information of American Airlines.

D. W. Holmes, personnel assistant to the executive vice president of American Export Airlines, has been named personnel director.

Charles F. McErlean, member of the legal staff of the National Labor Relations Board, has been appointed assistant to W. A. Patterson, president of United Air Lines, and will devote his time primarily to management-employe relations.

John W. Burke has been appointed plant engineer at La Guardia Field for American Airlines. James H. Baldridge, formerly director of personnel for PCA in Washington, D. C., has been appointed manager of system employment for American.

Larry J. Vandegrift is Transcontinental & Western Air's new system field director of industrial relations. He has been on special assignment for TWA in Philadelphia since January and was formerly station manager in Kansas City.

THE BLACK WIDOW

In cold, catalog language, the Northrop P-61 is "an airplane designed for the interception and destruction of hostile aircraft in flight during periods of darkness or poor visibility."

But to many a high-flying Heinie and Jap, this twin-tailed beauty with the kiss of death is an unseen nightmare. Her sleek blackness blends with the night . . . her sensitive "feelers" seek out the enemy with deadly accuracy . . . suddenly, she closes in, spitting hell from 20 mm. cannon and .50 cal. machine guns.

She's a tough lady, this Black Widow — largest, most powerful fighter ever built. And she's more than proved her mettle in darkened skies over every battlefront.

We at Chandler-Evans feel a kinship with this plane . . . because our fuel pumps are among those chosen for use with her huge Pratt & Whitney 2000 h.p. engines. And it is the superb performance of planes like this that make every Chandler-Evans man and woman determined to keep on producing the finest fuel pumps possible — *and in quantity.*

CHANDLER-EVANS CORPORATION
SOUTH MERIDEN, CONNECTICUT, U. S. A.

CECO

CARBURETORS
FUEL PUMPS
PROTEK-PLUGS

Airline Mileage and Traffic Statistics

The following tabulation is from preliminary reports issued by the Civil Aeronautics Board, as obtained from monthly Form 2780 reports from the domestic airlines to the CAB and from estimates when data are not available.

Final and authentic tabulations from Form 2780 reports, often not available until some months after the preliminary CAB reports, are published regularly by *American Aviation Reports*, American Bldg., Washington 4, D. C.

Because of space limitations, certain traffic and expense categories are not included in the following table.

MILEAGE AND TRAFFIC FOR JAN., 1945 AND JAN., 1944

		MILEAGE				TRAFFIC				
		Scheduled Percentage	Miles Flown Number	Total Revenue Miles	Total Miles Flown	Revenue Passenger Miles	Revenue Passenger Load Factor	Average Revenue Passenger Load	Mail Pound-Miles	Express Pound-Miles
All American	1945	74.19	96,526	96,993	100,647	.....	....	....	8,686,026	1,164,736
	1944	84.97	82,418	82,418	86,325	.....	....	....	6,957,125	1,190,645
American	1945	89.80	3,369,878	3,404,520	3,581,579	52,090,735	86.61	16.19	2,368,211,910	1,041,148,892
	1944	90.27	2,202,993	2,238,021	2,297,165	34,925,683	88.13	16.53	1,546,310,725	830,051,316
Braniff	1945	91.49	573,303	578,938	613,488	9,683,438	83.39	16.73	180,607,211	69,050,359
	1944	88.44	354,210	358,278	380,591	5,816,892	92.35	16.37	198,483,645	37,487,156
C & S	1945	86.50	328,476	329,347	335,683	4,878,404	71.59	14.81	96,651,221	64,943,982
	1944	86.51	178,139	178,139	191,320	2,893,002	81.79	16.24	71,975,609	29,902,594
Colonial	1945	83.48	104,832	105,178	107,638	1,347,910	61.04	12.82	12,254,290	5,296,646
	1944	91.88	55,792	57,792	61,219	937,912	77.28	16.23	7,074,943	4,537,790
Continental	1945	92.79	259,695	262,037	264,966	2,689,905	78.91	10.27	29,507,202	16,110,188
	1944	90.86	129,972	130,484	135,209	1,197,222	83.50	9.18	18,083,643	3,709,988
Delta	1945	93.28	374,513	374,513	379,193	6,622,379	86.03	17.68	219,422,102	45,122,561
	1944	84.14	233,649	233,649	236,973	4,336,706	90.40	18.56	152,449,872	26,856,643
Eastern	1945	Data not available due to carrier's delinquency in filing Form 2780 report for January 1945								
	1944	91.32	1,178,317	1,220,108	1,252,052	19,183,392	89.61	17.26	817,436,858	266,045,633
Hawaiian	1945	100.00	47,700	86,250	91,278	1,534,915	94.68	22.72	4,020,872	87,862,800
	1944	100.00	46,176	75,223	76,249	1,294,895	94.97	22.79	3,935,514	81,348,672
Inland	1945	97.91	133,914	136,164	138,989	1,322,522	65.26	10.00	9,449,928	1,466,563
	1944	85.50	73,473	73,473	73,768	351,886	66.01	7.36	6,209,142	543,514
Mid-Continent	1945	89.89	210,473	210,473	228,795	1,895,746	53.45	8.06	38,697,534	9,526,878
	1944	96.61	174,602	174,602	177,057	1,337,630	60.70	7.66	40,965,609	4,603,856
National	1945	94.74	389,384	397,313	404,928	4,691,932	89.20	11.87	89,407,996	16,102,729
	1944	94.37	190,573	196,649	202,836	2,294,605	88.89	12.18	52,250,920	11,446,978
Northeast	1945	77.13	99,542	99,542	103,791	1,004,372	45.96	10.09	5,648,254	3,254,483
	1944	77.68	74,887	74,887	77,529	814,760	51.81	10.88	5,024,308	1,959,958
Northwest	1945	91.10	760,585	766,128	776,420	11,609,023	79.12	15.26	428,940,300	138,080,503
	1944	94.97	457,911	457,911	463,272	6,657,344	81.91	14.76	404,495,247	83,026,397
Penn-Central	1945	79.27	563,177	565,885	574,955	7,471,134	65.88	13.20	115,373,384	103,627,254
	1944	85.32	266,617	266,617	270,126	4,367,901	78.85	16.38	101,870,850	60,171,842
TWA	1945	82.84	1,873,302	2,057,407	2,166,306	29,261,205	84.44	15.68	1,840,433,575	747,152,411
	1944	90.43	1,392,075	1,399,114	1,471,035	20,064,880	87.76	16.15	1,213,377,199	497,304,475
United	1945	86.13	2,685,451	2,734,504	2,836,062	36,162,387	92.54	15.91	3,422,963,132	687,117,467
	1944	94.90	2,017,379	2,067,144	2,141,334	31,607,067	94.86	17.07	2,340,510,638	638,290,966
Western	1945	97.04	382,899	384,187	399,862	6,290,366	82.13	16.37	211,866,367	51,346,736
	1944	90.84	190,638	191,310	202,489	2,951,258	79.06	15.43	78,341,732	42,158,589
Total [1]	1945	86.91	13,903,532	14,267,647	14,816,166	205,636,540	83.34	15.52	10,059,063,566	3,493,848,183
	1944	91.21	9,300,321	9,475,819	9,786,539	141,133,035	88.06	16.16	7,065,753,579	2,621,141,883
Month of December 1944:										
Eastern		81.55	1,649,882	1,678,268	1,711,568	27,280,167	82.22	16.71	976,922,272	405,468,153
Adjusted total [2]		84.70	13,405,770	13,847,690	14,245,364	204,791,750	85.11	15.93	9,915,646,166	3,482,364,809

[1] The total of all carriers for the month of January 1945 reflects data for the month of December 1944 for Eastern due to non-receipt of this carrier's Form 2780 report for January 1945.

[2] This total includes data for Eastern for month of December 1944, not furnished by this carrier in time for the December 1944 Public Release.

Revised Part 24 of Civil Regulations Up Before CAB

Revised Part 24 of the Civil Air Regulations, which deals with the classification and licensing of aircraft mechanics, has been submitted to the Civil Aeronautics Board for final action, Robert D. Hoyt, chief of the Safety Rules and Education Division, reports.

Principal change in the revised regulations is the setting up of light and heavy airframe divisions, with the division line being raised 5000 pounds, as originally proposed, to 6000 pounds. Hoyt said this weight differential was high enough to include in the light airframe category practically every type of private airplane.

Hoyt said that without such a division, there is difficulty in setting up standards for mechanics. The chief argument in favor of the division is that it reduces the scope of examinations which must be given to prospective mechanics. Those who qualify on light aircraft, for example, would not need to have the qualifications necessary for a mechanic who will work on aircraft of the size of the DC-3 or DC-4.

Thus the revised regulations serve to give the mechanic a rating based on what he knows or needs to know, rather than a blanket proposition which would require him to obtain training and know-how on aircraft upon which he will never work.

Appointed to L. A. Board

Charles S. Thomas, president of Foreman and Clark, Inc., retail clothiers, has been appointed to the Board of Municipal Airport Commissioners of Los Angeles by Mayor Fletcher S. Bowron.

The new commissioner will continue his connection with the U. S. Navy as an adviser.

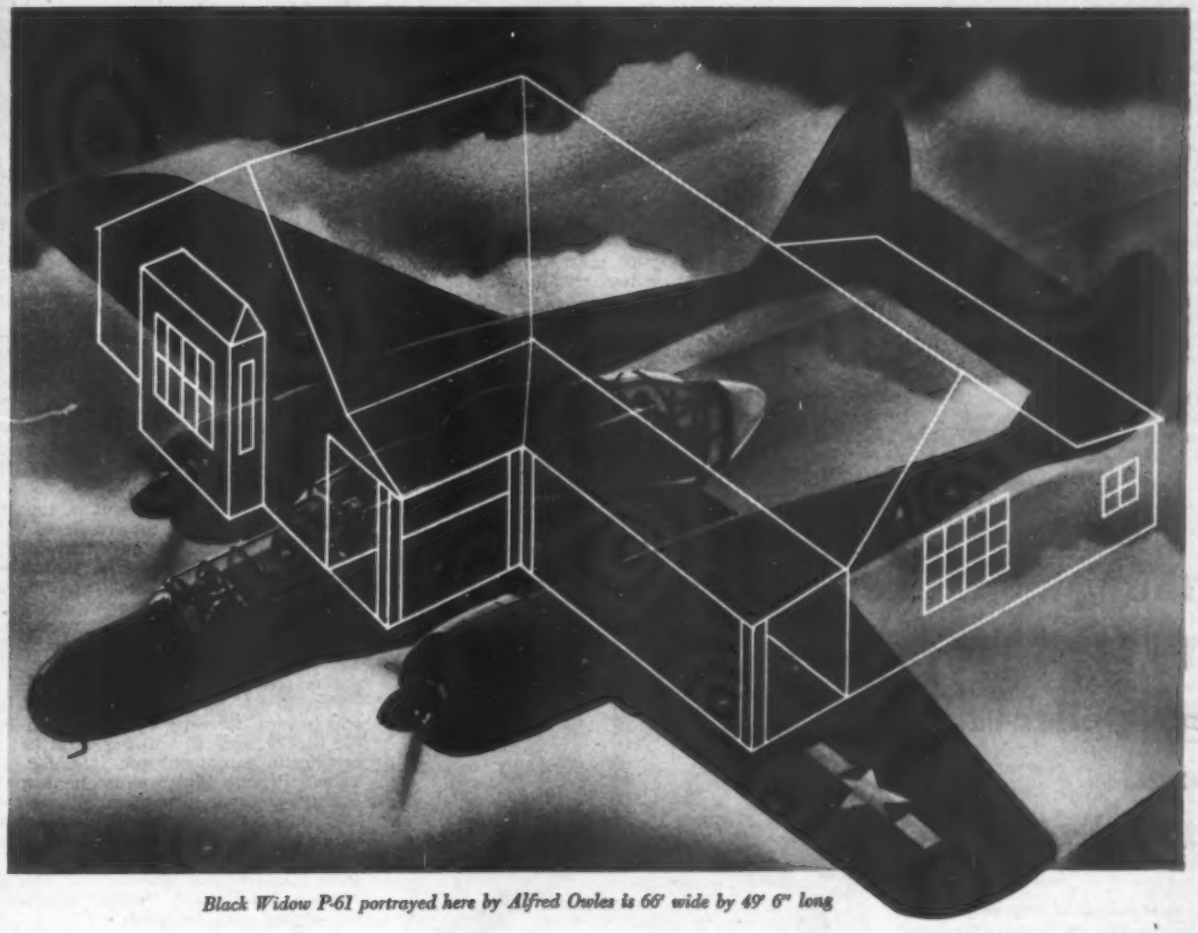
Passenger Travel in Canada Up, But Passenger Miles Off

Canadian passenger travel by air increased from 22,726 passengers in November, 1943, to 26,309 passengers in the same month last year, an increase of 15.8 percent, but passenger miles flown dropped from 8,298,334 to 7,190,461, or 13.4 percent, the Dominion Bureau of Statistics reports.

For the comparable periods, the average journey declined from 365 to 273 miles and for Canadian licensed carriers it declined from 452 to 366 miles. The ratio of revenue passenger miles to available seat miles declined from 68.8 for international routes in October to 63.1, and for Canadian licensed carriers from 83.3 to 74 percent.

Revenue freight miles carried decreased from 504,701 pounds in November, 1943, and 1,402,378 in October, 1944, to 320,476 pounds in November of last year.

"Black Widow" *proves the case for the BIG pursuit*



Black Widow P-61 portrayed here by Alfred Owles is 66' wide by 49' 6" long

Long as a house, Black Widow P-61 has a wing span wider than a good-size city lot. Its engines develop more power than the Diesel locomotive on a streamlined train. Its crew of three men fight four .50 caliber machine guns (by remote control) plus four 20 millimeter cannon.

All of which means this night-fighting Northrop-designed pursuit plane is *big!*

Yet in battle, the big P-61 has shown it can maneuver with U. S. pursuit planes of whatever size. It has demonstrated that in the sky, as in the prize ring, a good BIG fighter can usually beat a good *little* fighter.

The Black Widow also demonstrates Northrop's ability to answer an urgent battle problem with an *advanced* airplane design. In this plane, Northrop-designed *retractable ailerons* and *full-span flaps* have given a big, heavy airplane the maneuverability, fast climb, slow landing speed and safety of much smaller and lighter airplanes.

Northrop Aircraft, Inc., Northrop Field, Hawthorne, California.

NORTHROP

Creators of the ***Flying Wing*** *and the* ***Black Widow*** *P-61 Night Fighter*

New Civil Air Regulations Presented to CAB

Appear to be Greatly Simplified, More Liberal Than Any Previous Set of Rules

PRIVATE FLYERS will find that the new Civil Air Regulations which were presented to the Civil Aeronautics Board on March 26 are greatly simplified and are far more liberal than heretofore. Jesse Lankford, director of CAB's Safety Bureau, predicts "it will probably take pilots about a year to discover just how much freer they are."

"We have never had so much constructive co-operation from the country before," Lankford told *American Aviation* disclosing that the Civil Aeronautics Administration and the CAB received more than 400 responses to the original draft of the revised regulations circulated in January, 1944. About 90 percent of the replies favored great simplification of the present rules. The second circulation in November brought similar comment from private flyers and their organizations. The National Aviation Trades Association Convention at St. Louis and the Southwestern Operators meeting at Fort Worth voted for immediate adoption of the revised regulations.

The guiding principle in effecting the changes, according to CAB spokesmen, was to make all private flying regulations simple and easily understandable, grouped together and limited to those rules which are absolutely essential to general safety. Some revisions were made to bring rules up-to-date and in keeping with the latest aviation developments.

Simplified Written Exam

One of the most important changes calls for a simplified written examination for the private pilot license to be given before the student makes his first cross-country flight. A handbook containing all the rules on contact flight, aircraft, procedure and safety practices on which the examination is based will be issued by CAA. It is believed that the requirement of a written exam before cross-country flying is permitted will eliminate the practice of using a student's permit for an indefinite time to avoid taking the license test.

A private pilot must be 16 years old, under the revised regulations and he must have a physical examination every two years instead of each year. The student pilot certificate also will be good for two years.

The number of solo hours required for a private pilots license has been reduced by five hours and spins have been eliminated from the test to be replaced by practice in stalls. CAA and CAB believe that the requirement of spinning has not stopped any crack-ups and has discouraged many student pilots from taking the flight test.

Starting at Bottom— William D. Pawley, Sr., (left) originator of the Flying Tigers, who has flown more than a million passenger miles, in foreign countries, is out to win his private pilot's certificate in the United States. The owner of Intercontinent Corp. is shown with his son, Lt. William D. Pawley, Jr., Army Air Forces, after enrolling at Embry-Riddle School of Aviation in Miami. Lt. Pawley learned to fly at Embry-Riddle before entering the AAF.

Pilots must now check-out in each new type of plane which they wish to fly by making five landings and take-offs instead of keeping a record of horsepower ratings. Forty hours experience is now required for an instrument rating but the additional 20 over the former requirement may be taken on a Link Trainer. These changes are all embodied in Part 20 of the revised regulations.

Part 43 has combined and revised rules which were formerly spread out in Parts 01, 04, 20 and 60 dealing with aircraft certificates equipment and rules for operation. Private planes must be inspected every year and commercial planes every 100 hours. Pilots are no longer required to log flight time accept in such cases as when they must log 200 hours to receive a commercial license. For this purpose a mechanical device attached to the engine may be used.

A pilot may fly his plane acrobatically for hire if all passengers are given parachutes. The student may make his first solo flight at any time the instructor feels he is qualified although he must have 10 hours dual instruction before he qualifies as a private pilot. Previously the requirement was for a minimum of 8 hours dual instruction before the first solo.

One of the chief sources of disagreement in the preparation of the revised regulations was the section in Part 60 dealing with maximum altitudes for contact flying. Present regulations call for flying at least 500 feet above the ground and five hundred feet under the clouds. At the time the revisions were circulated for comment, the maximum altitude allowable was to be 800 feet clear of clouds with instrument flying at a minimum of 1000 feet. But further discussions be-

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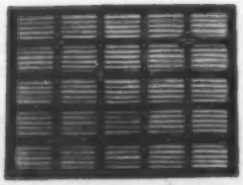

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tween CAA and CAB have led to the proposal which is being given to the Board that outside of control zones contact aircraft may be flown up to 1000 feet clear of clouds. This would require instrument flights to be conducted at 1500 feet.

CAB spokesmen explained that they had made the first step toward a helical separation system by requiring instrument flights outside of control zones to operate at a specified altitude for each of the four points of the compass. This is called a "quadrantal system of altitude separation."

A separate section will be attached to the approved regulations when they are issued giving the rules which are in force for the duration of the war emergency. The Safety Bureau has recommended to the Board that these revised rules be adopted to become effective in four months.

Wilson Expects Wide Use of Light Metals In Private Aircraft

"The future of air transport, civil and military, is more dependent upon light alloys than is that of any other industry," Eugene E. Wilson, vice chairman of United Aircraft Corp. and president of the Aeronautical Chamber of Commerce testified recently before the Senate Small Business Committee. The aircraft industry has greater experience in fabricating aluminum and magnesium than all other metal fabricating industries combined and this experience "will pay rich dividends in the development of superior postwar airplanes," he observed.

Wilson said that although aeronautical research may lead to the discovery of better raw materials for aircraft than the light metals, most engineers assume aircraft of the early postwar years will utilize the same proportion of metal alloys as present military craft. He estimates that 1000 military planes consume the same amount of light metals as 12,470 personal planes.

"Given favorable public policies and encouragement to competitive development, the production of personal aircraft may eventually far outstrip both transport and military aircraft as a field for the utilization of light metals," he predicted.

Wilson stated that the aircraft industry is opposed to government ownership or subsidy of the light metals industry after the war.

"The freezing of light metals as the chief raw material—which is what the maintenance of an artificially low price implies—would automatically remove one of the greatest spurs to competitive aviation research," he said.

Parts Company Purchased

S. Eisenrod, president of Lincoln Machine Co., Providence, R. I., has purchased Poulsen & Nardon, Inc., Los Angeles machine shop, for an estimated $1,000,000. C. J. Nardon will continue direction of the plant engaged in the manufacture of aircraft parts and other war work as general manager. Eisenrod will become president.

CAA Airport Spacing Standards Criticized by AOPA and NATA

DISSATISFACTION with the minimum standards for airport spacing proposed by the Civil Aeronautics Administration has been voiced by almost all groups interested in an expanded future for private flying. Most spokesmen agree that traffic patterns not spacing should protect airports from conflicting.

"Adoption of an airport separation rule can be counselled only as a means of protecting the airport approaches to large air terminals," the Aircraft Owners and Pilots Association believes. "The record shows that there have been no cases where traffic patterns could not be worked out for airports even when they were located adjacent to each other."

One civil airman points to the situation in Washington which has a major Army airport, a major Navy airport and major commercial airport within a mile of each other.

"I have personally flown in and out of all three of them without any traffic difficulties and I believe statistics will prove their operation has been very satisfactory," he reports. In the future, he adds, "we should improve our knowledge of traffic control. The ability of this industry to grow is certainly going to depend on the convenient location of landing facilities."

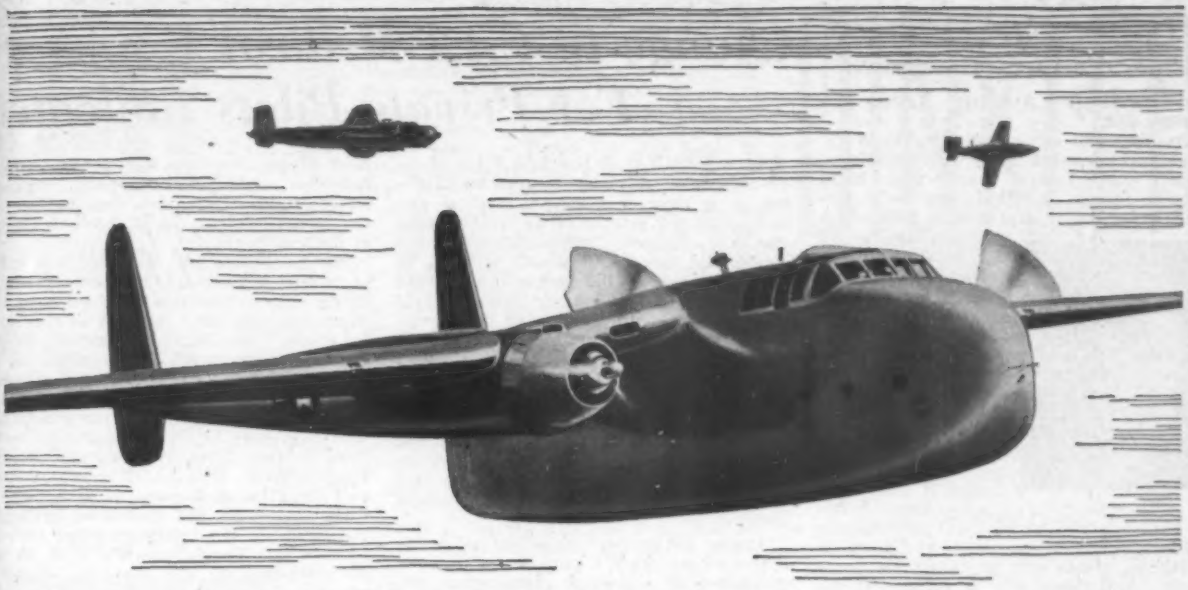
The National Aviation Trades Association reports difficulty in finding sites for airports without further restricting growth by imposing arbitrary rules. In cases where airports are presently located very close together any interference of traffic has been worked out effectively by local rules which do not constitute a hazard to transients, NATA says.

The association further warns that present airport planning has not taken into consideration postwar improvements of planes.

"If the slot, flap, spoiler developments progress as anticipated by the National Advisory Committee on Aeronautics, it is highly possible that almost vertical landings and take-offs would be the normal procedure, which would outmode most of our existing concepts (on airport spacing)," says NATA.

AOPA criticizes the six-mile spacing rule of the Interdepartmental Air Traffic Control Board because if it should be enforced in the postwar years "utility in airport facilities will be sacrificed." AOPA states that traffic patterns can be planned so that small fields can operate adjacent to each other, dispersing traffic.

"To acquire six-mile separation of such airports is obviously unnecessary and, we believe, quite harmful to the program of installing private flight strips necessary to the progress of private flying," says the owner-pilot group.



NORTH AMERICAN JOINS FAIRCHILD IN PRODUCING THE

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AMERICAN air power, the mightiest on earth, was built by teamwork with American industry. Into our ships of the air go the efforts of manufacturers and suppliers great and small.

The Fairchild "Packet," the Army's newest and most efficient carrier of air cargo, was built by this kind of teamwork: The teamwork of the Army with Fairchild designers and engineers, Fairchild sub-contractors, builders of engines, suppliers of metals, the sub-assemblers and fabricators of myriad parts and materials!

Now the Army Air Forces have designated North American Aviation, Inc., as another builder of "the flying boxcar." Fairchild welcomes this newest member of the "Packet"-building team, famed for the B-25 Mitchell Bomber; the superlative fighter, the P-51 Mustang; and the AT-6 Texan.

Soon the "Packet" will be coming down the runways from both Fairchild and North American.

Fairchild engineering and design built these features into the "Packet":

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- A range in excess of 3,500 miles.
- A cargo capacity of 2,312 cubic feet—about 88% of a standard boxcar's capacity.
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- Special doors in the belly, through which a paratrooper's equipment is parachuted simultaneously with his jump.
- Quick conversion to an ambulance plane capable of evacuating 34 stretcher cases with four attendants.
- Lowspeed landings and quick takeoffs from ordinary airstrips.
- Fine flying characteristics, typical of all Fairchild aircraft.
- The only modern airplane being produced to *specifically* carry cargo.

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Piper Foresees Downtown Rooftop Landing Areas

The day will come, according to W. T. Piper, president of Piper Aircraft Corp., when some "crazy man" will build a large hangar in the middle of a city with a flat roof for a landing field. The planes will be taken down an elevator or ramp for storage, and the passengers will take an elevator to a rapid transit station. Such a building, he said, would not cost more than some of today's airports, and would have the advantage of being conveniently located. And when such a facility is available, planes will be useful for commuting and there will be some real activity.

Piper

Speaking to a group of commercial and industrial leaders at an Airport Development Clinic sponsored by the New York Board of Trade, Piper pointed out that because of its flexibility in comparison to the regular airlines, the personal plane has a real opportunity to be of service in providing unscheduled transportation between places where other systems are not highly developed, but that if these planes are to be used satisfactorily for short journeys, the airports must be properly located.

Change in CAA Medical Exams For Private Pilots Indicated

AS A RESULT of the first CAA Non-Scheduled Advisory Committee meeting, it is clear that CAA's medical examinations for private pilots will be substantially changed. Informed sources indicate that top CAA officials will act in the near future on the suggestions of committee members and other private flyers who have frequently expressed disapproval of the physical requirements.

Secretary of Commerce Henry A. Wallace attended the opening session of the two-day meeting in Washington at which the main topic discussed was the standard for medical examinations. Wallace had already expressed an interest in private flying at a Senate hearing when he said he was planning to take flying lessons himself.

Among the suggestions presented at the first meeting were elimination of the requirement of a medical examination; extension of the valid period of a medical certificate to two or more years; increasing the number of doctors approved by CAA; or permitting any doctor to give the examination; and permitting instructors to pass on the physical fitness of student pilots.

The first meeting of the new committee was opened by T. P. Wright, Administrator of CAA, with the discussion on medical certificates being led by Fred Lanter, director of Safety Regulations. The committee includes: William T. Piper, president of Piper Aircraft Corp., representing manufacturers; John Groves, Air Transport Association, representing the airlines; Arthur I. Boreman, publisher of Dry Goods Journal, representing users of lightplanes; Beverly Howard, president of Hawthorne School of Aeronautics, representing aircraft service operators; and Joseph Bergin, director of the Utah State Aeronautics Commission, representing State Aviation Officials.

Regional representatives are Fred Weick, Engineering and Research Corp. for Region 1; Harry Playford of St. Petersburg, Fla., Region 2; William A. Mara, vice president of Bendix Aviation Corp., Region 3; Edward Garbacz, Central Flying Service, Region 4; James C. Johnson, Springfield Flying Service, Region 5; Douglas Robinson, Air-Safe Company, Tucson, Region 6; Ed Williamson, Bearing Service Co., Seattle, Region 7. W. L. Jack Nelson of CAA is Secretary.

The committee also discussed the status of safety regulations for non-scheduled flying. The information obtained from this discussion was used by CAA at the Non-Scheduled Air Services hearing before the Civil Aeronautics Board on March 27. Other subjects at the first afternoon meeting were air marking systems and radios in private aircraft. CAA representatives who took part in these discussions were: Fred Lanter, Glen Woodmansee, Merrill Griffith, Ed W. Hudlow, Thomas B. Bourne and Mrs. Blanch Noyes.

On March 23, the committee presented its views on the latest proposed revision of Civil Air Regulations, Parts 20, 43 and 60 pertaining to the licensing of pilots, non-air-carrier rules and air traffic rules. They also commented on the value of private pilots' written examinations which many believe should be shortened and simplified. In general, the most disapproved of section is that on navigation and meteorology.

The last session was devoted to comment on CAA's National Airport Program and the airport bills which have been introduced in Congress. Some of the questions raised by CAA were: How far should Federal participation go in the development of an airport program; should it extend to land, buildings, improvements and runways? Is any action necessary to assure the continued availability of privately owned airports? Should smaller airparks be left for private capital to develop? Should there be public control over location of airports? What is the attitude of municipalities towards the establishment of an airpark system.

The two-day meeting was concluded by a dinner given by the Personal Aircraft Committee of the Aeronautical Chamber of Commerce at which the principal speaker was Leslie Neville, editor of *Aviation*. T. P. Wright, and Don Flower, chairman of the Personal Aircraft Committee, spoke. Rep. Jennings Randolph was toastmaster.

Lear Predicts—William P. Lear, president of Lear, Inc., tells members of the New York Chapter of AWA some of the things that the aviation radio manufacturers have in store to make private flying safer and more practical after the war. At right is Russell Newcomb, Governor of the New York area of AWA.

Lear, Inc., Developing Automatic Pilot For Private Flyer; Radar, VHF Hailed

RADAR and VHF radio equipment will probably provide the ultimate solution to the private pilot's traffic control and communications problems, but definite predictions as to specific equipment at this time would serve only to organize confusion, William P. Lear, president of Lear, Inc., told members of the New York Chapter of the Aviation Writers Association at a recent meeting.

One thing that his company definitely is working on, however, is an automatic pilot for the private flyer which will be extremely light in weight, low in cost, and simple in design, and will require very little servicing. He stated that there is a tremendous need for such an instrument if the personal airplane is to have the real utility for getting places that is essential to bring about volume buying.

Referring to the part radar will play in postwar traffic control, he said that it is perfectly feasible and possible to have a cathode ray tube six inches or two feet or even three feet in diameter to serve as a visual indicator for radar equipment, and suggested that such tubes may even be in use today. With an indicator tube of this size, instead of having three or four people in a control tower, as at present, trying to keep track of what's going on, a single traffic director could keep track of everything within a 50 or even a 100 mile radius with ease.

He would see little spots on the tube, and each one of the spots would indi-

cate an airplane. He could see how far out each one of the spots was from the center of the tube, and he would then know how far out each airplane was. By following any one spot, he could see in which direction that airplane was moving, and whether or not it was in the correct traffic pattern. There are also ways in which he could identify a plane by its spot on the tube.

Thus, in effect, this one tube can do in the air what the traffic cop does on the ground, according to Lear. But it can go even further. If the tube covers a 50 or 100 mile radius, and a spot is way out on the edge of the tube, the traffic director knows that airplane is far enough away so that he doesn't have to worry about it. However, if he sees two spots converging on the tube, he immediately gets on his transmitter and warns one of the planes "Watch out over to your left, there is a ship approaching you or overtaking you—or whatever the case may be."

But, Lear pointed out, this will be of no help to the private pilot or the man who is flying the airplane if he has no reliable communications, and this is where VHF enters the picture. During the war, Lear said, there has been great development in the VHF range of transmission and reception. VHF offers many advantages over the medium ranges now being used. It is independent of seasonal change and free of static. You can even use it to carry on a reliable communication right through a bad thunderstorm.

VHF Not Simplicity

But on the other hand, VHF is not simplicity. It will be expensive and complex. Lear estimated that the relationship between the cost of VHF radio equipment and the prewar type for itinerant flyers is between two and five to one. Still another complication to the problem is the fact that for a period of from two to five years, both medium and very high frequencies will have to be operated.

As to the ultimate solution, he said only that if the personal plane develops to the point where there will be enough volume in production, then the cost of radio equipment will come down.

He saw another gleam of hope in the fact that the CAA has developed a system of VHF omni-directional ranges which he believes may eliminate the necessity for direction finders aboard aircraft. The new range provides a signal which provides the pilot with a means of determining whether he's on course or off course. He need only adjust a little dial on the panel that turns through 360 degrees until a needle reads right in the center. If the indicator shows 330 degrees, that simply means that the pilot has to fly a course of 330 degrees to go towards that station. All he has to do then is turn his plane around until the indicator comes to center, and then fly a "beam" path to the station. Such a range is preferable to a direction finder in that it corrects for wind drift, and permits the pilot to fly a definite course on a straight line right into the station.

All this, Lear points out, is possible on the very high frequencies and not possible on the medium frequencies, so that even though VHF is more complex and more expensive, its advantages are not limited to more reliable communication.

Plan Aeronca Exports—Markets for lightplanes manufactured by Aeronca Aircraft Corp. are expected to be opened in Brazil and China by, left to right (standing), George Prochet, managing director of Aviquipo do Brazil, and C. F. Liu, managing director of Aviquipo, Inc. of Chungking. Seated at right is Carl Friedlander, Aeronca vice president. At left is Samuel Niedelman, president of Aviquipo, Inc., New York, export agent for the Middletown, O., manufacturer.

Student Pilot Certificates Issued During 1944 Total 51,000; Many Business Men

More than 51,000 student pilot certificates were issued in 1944 compared to less than 35,000 issued in 1943 to students outside the War Training Service Program, CAA announces. About 35 percent of the 3400 students' certificates issued on the West Coast went to persons living within the restricted zone. The results of an informal CAA survey show the predominant age group of student flyers is between 16 and 21, and men over 30 who hope to use flying in their business. This group includes country doctors, priests and farmers.

New airports are being built to meet the increased demand for training. L. C. Elliot, CAA regional manager at Fort Worth, reports the number of designated landing areas in his region has increased from 195 to 251 during the past year. Another method for satisfying the demand for flight training has been developed among operators in the Kansas City area, who send out instructors to communities of 500 to 1,000 population, usually giving lessons to five or ten persons.

In New England, where snow-covered airfields hamper flying activity in winter, several operators have met the problem by opening seaplane bases.

With the closing of WTS schools, the supply of flight instructors became adequate to meet civilian demands for training. Air service operators however, report great difficulty in obtaining qualified mechanics.

Luscombe Plans Texas Plant

The Luscombe Airplane Corp. of Trenton, N. J., has bought 500 acres seven miles northeast of Dallas, Texas, on which to erect a modern aircraft factory and develop a new airport. The project is planned as a personal flying center devoted to manufacturing, maintenance and general operations.

Photograph—Underwood-Stratton

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If you could look inside the cramped quarters of a navigator on a U.S. bomber or transport plane these days, you'd notice that the name "WEEMS" was prominent on the navigation instruments and in the books used as navigational aids in flight. No wonder, for "Weems" instruments are standard in the U.S. Army Air Force, as well as in the Royal Canadian Air Force and the British Royal Air Force. In addition to the navigational instruments and texts Weems offers home study courses and classroom instruction in air navigation; in principal cities. Weems' texts and instruments may be purchased at the nearest aviation or marine supply house, or book store. If they cannot supply you, write to Weems System of Navigation, Dept. AA-4, Annapolis, Maryland.

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CAA Experimenting with Radar At Indianapolis Station

THE Civil Aeronautics Administration's experimental station at Indianapolis has begun a series of experiments with radar, which are expected to increase the safety factors of flying in instrument weather, especially in zones of traffic saturation around busy airports.

Two prime objectives of the research are a perfection of a screening device which will permit the tower controller to visualize the actual positions of all aircraft within a radius of approximately 25 miles, and a collision warning device, to be installed on the instrument panel of the plane.

The latter device would give constant visual indication of the relative position of other aircraft within a certain radius. The CAA radar experiments are being made with 10 carloads of appliances loaned by the Army and Navy.

The CAA said that a traffic control tower equipped with a radar type f screen, such as the CAA is planning to adapt, could monitor the movement of all planes on instrument approach. This would detect immediately any hazardous condition that might occur because of pilot error, or some mechanical failure in the radio landing system.

Other methods of landing "blind" through use of radar are also being studied.

With radar, the tower controller could adjust the flow of outbound traffic with complete confidence as to the exact whereabouts of inbound traffic, over traffic, and other departing planes. At present, this can be determined only through pilots' position reports which are not always accurate, and are time-wasting, as only one can be heeded at a time.

CAA said that the basic function of a collision warning device is to advise the pilot of the relative separation of his aircraft from other aircraft and obstacles in his path. Preferably the indication would show the separation laterally, vertically and from all directions.

Such a device was developed several years ago by CAA, but its weight and cost made it prohibitive for general use. Wartime needs have speeded up refinements and practical application is considered far nearer.

Safety and 100% regularity in air transportation require that the pilot be able to protect himself from collision in all weather. There will be too much traffic and too little time for a control system on the ground to handle it all. Even now excessive delays are being caused by the partial obsolescence of the radio-voice system.

In actual operation of the collision instrument, the pilots would be responsible for proper vertical separation between airplanes while climbing, while holding at fixes, and while being "stepped down" over a range during approaches.

Using a collision warning device, the letting down routine of each aircraft could be handled by the pilot. This would mean that the control tower would act as a monitoring agent through its radar screening device. The accumulated time-saving over a period of bad weather would be considerable.

Aircraft taking off, and climbing to assigned levels would maintain their own separation, and during the period of level flight along the airway, the warning device would signal the presence of other aircraft.

Simplified Procedures For Three Classes Of Private Pilots Set Up

The Civil Aeronautics Administration has set up simplified procedures for three classes of private pilots under which they may renew licenses which ordinarily would have lapsed during the interim brought about by service in the armed forces, according to a service bulletin published by the National Aeronautic Association.

The three classifications covered are the prewar private pilot, whose war time status does not permit flying, either because of service in the armed forces or for personal reasons; the prewar private pilot now on military flying status, and the military pilot without a prewar private license.

Special Projects Begun

A new special aircraft projects subdivision of the aeronautic division, Society of Automotive Engineers, has initiated four projects. They are: development of a standard aeronautical drafting room practice manual; test procedures and design requirements for helicopter powerplant, transmissions and drive mechanisms; standardization of inspection stamps and symbols used in the aircraft manufacturing industry; and aircraft engine cold starting requirements. Peter F. Rossman of Curtiss-Wright Corp. is chairman.

PHOTOGRAPH FOR CULVER AIRCRAFT CORP. BY ROBERT YARNALL RICHIE

YOU'LL find Sensenich propellers as standard equipment on nine out of ten new aircraft under 250 hp.

The man who buys a plane—and flies one—can profitably ask the question "Why?".

With at least half a dozen to choose from, why do most plane and engine designers, engineers and test pilots specify Sensenich wood aircraft propellers?

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KEEP 'EM IN THE AIR WITH A SPARE

Rural Areas Seen as Big Market for New Planes

Nearly 60 percent of the light personal planes in postwar America will be owned in rural areas, with another 10 percent bought by suburban residents, according to a survey made by Aeronca Aircraft Corp., Middletown, Ohio.

The results are accounted for by three main reasons; ample landing facilities on a farm or on the fringe of a small community; many barns and equipment sheds are virtually ready-made hangars; and residents outside of metropolitan areas are interested in having planes for seed planting, crop dusting, flying the range, obtaining repair parts quickly, and dispelling isolation by getting from "nowhere" to "somewhere" quickly.

John W. Friedlander, Aeronca president, does not envisage beautifully landscaped landing strips in the hearts of cities immediately after the end of the war for businessmen commuters and women shoppers.

Trade-In Policy Set Up At Embry-Riddle Shops

A trade-in policy has been set up by the Embry-Riddle Aircraft and Engine Division at Miami. A pilot can fly into Chapman Field, have an engine removed, a newly overhauled one installed and in three hours be on his way again.

For more than two years the Division overhauled engines for the Army Air Forces, and now is making its facilities available to personal plane owners under a novel plan. Rebuilt carburetors, second-hand engines and all parts pertaining to aircraft will make it possible to reduce the expense of the upkeep of a plane, the Division contends.

Mitchener in Charge Of Hawthorne Bases

Joseph J. Mitchener, Jr. has become director of base operations of the Hawthorne aviation organizations, according to Beverly Howard, president.


Mitchener

"Jack" Mitchener joined the Hawthorne staff in October, 1943, having previously been superintendent of War Training Service in the Second Region. A native of Texas, he learned to fly 19 years ago in California.

He continues as manager of Hawthorne Airways, the company's proposed air mail pick-up route to serve Virginia and the Carolinas.

He is in direct charge of Hawthorne's five commercial bases at Orangeburg, S. C.; Columbia, S. C.; Greeneboro-High Point, N. C.; Rocky Mount, N. C.; and Fayetteville, N. C.; and of Hawthorne Aero Supply. His headquarters are at Orangeburg.

Many Solutions Studied for Gas Loading

Methods Adapted from Auto Servicing Being Discarded In Favor of Those Designed Solely for Aircraft

By SYDNEY CARTER

BOTTOM FUELING, collapsible hose, underground gasoline reservoirs with conveniently located hydrants, mobile pump and separator units mounted on a jeep or similar light vehicle, and self-propelled hydraulic fueling ladders and fueling towers are among the solutions now being advanced for one of air transportation's major postwar problems—loading the plane with the gas that makes it run.

Before the war aircraft fueling methods were largely an adaptation of those which had long been used by automotive service stations. The only significant innovation by the airlines was the introduction of the tank truck in place of the stationary pump, so that the fuel supply could be brought to the plane instead of the plane having to go to the fuel supply. But while this eased the problem temporarily, it by no means solved it, and wartime developments together with the prospects of bigger aircraft, requiring greater gas loads and more frequent and faster schedules have made it apparent to airline engineers, pump manufacturers, and oil companies alike that new methods and equipment particularly suited to aircraft requirements must be devised.

The basic requirements for an aircraft fueling system are:

Safety—every precaution must be taken to avoid any possibility of fire due to spilled fuel or escaping fumes which might become ignited by sparks from the fueling equipment, static electricity or other sources.

Speed—it has been estimated that on the average airline trip a five minute saving in ground time is equivalent to 22.6 mph increase in cruising speed.

Capacity—the present day airline tank truck holds an average of only 1200 gallons, which is a mere drop in the bucket for such postwar sky giants as the Lockheed Constellation or the Boeing Stratocruiser, yet the use of larger trucks such as the 12,000 gallon Army tank-trailer would be impractical in the congested traffic area of an airline loading zone.

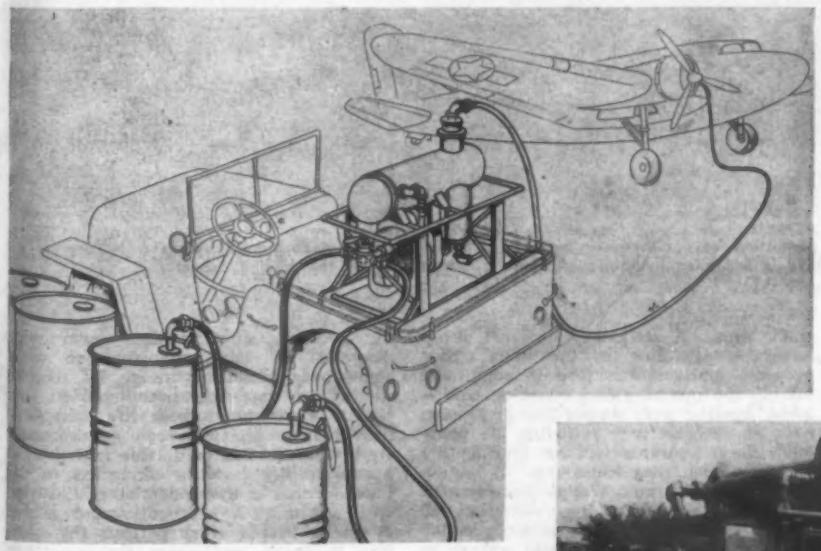
Portability—the equal importance of other ground operations such as passenger and cargo loading rule out the possibility of fixed underground stations to which the plane would be brought to take on gas.

Easy Handling—the use of large diameter hose capable of delivering a large volume of gasoline at low enough pressures so as not to damage the gas tanks is limited by the weight of hose that the ground crew can handle, and in the case of conventional top fueling, by the weight that can be safely pulled over the wing without damage to leading edge or deicer boots, unless some auxiliary means of handling the hose is provided.

One of the major contributions to the fueling problem, and one which may provide a starting point for postwar equipment designers, was devised by engineers of the Air Transport Command for "the Hump" operations, where the inaccessibility of the bases ruled out the possibility of large tank trucks, yet the number of planes to be serviced far exceeded any current airline operation.

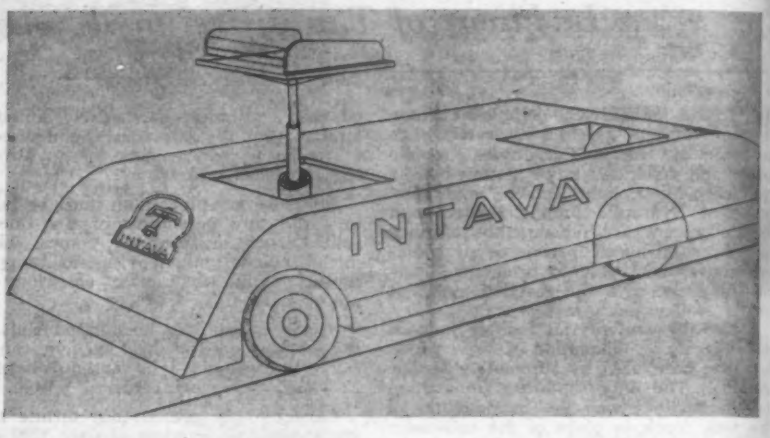
To meet this particular situation, a jeep-mounted unit was designed using a gasoline engine driven Marlow self-priming centrifugal pump, a Warner Lewis separator to remove all water and Clayton control valves to prevent the water reservoir from filling up and overflowing into the gas discharge line. Two gasoline intake lines connected to a three way valve and equipped with straight brass stubs to draw the fuel directly from drums were provided. In operation as one drum was emptied, the three-way valve was thrown over to the other intake line and the line leading to the empty drum was transferred to a full one, with the process being repeated as each successive drum was emptied, thus permitting continuous operation at a flow of from 50-80 gallons per minute.

All parts for the jeep refueling unit were selected after extensive testing. A centrifugal pump was chosen instead of the positive displacement type normally used by the Air Forces because there



ATC Fueling Unit—The jeep pumping and separator unit at right was developed for transferring gasoline from drums to C-46 Commandos and other Army transport flying supplies into China over "The Hump". Designed by engineers of the Air Transport Command, it mounts a centrifugal pump and a separator for removing water, and is capable of delivering a continuous 50-80 gallons per minute. How it is used is shown in the drawing above.

For Faster Fuel Delivery—Pictured on this and the following page are some of the recent developments by pump manufacturers, oil companies and Army engineers. Top left, is a folding ladder mounted on a low vehicle designed by The Ohio Pattern Works & Foundry Co. to carry the hose up to the top of the wing, and thus permit the use of larger diameter hose than can now be handled.



This low truck will even pass under a wing, permitting easy maneuvering. Fuel is drawn from an underground hydrant. In inset is a similar truck designed by Intava in which an hydraulic platform is substituted for the folding ladder.

was less chance of its breaking down when abused by overloading, and the Marlow design was selected because of its simplicity with only one moving part and its positive self-priming feature. The Warner Lewis separator, which employs hay as a separating medium, passed less water under Bureau of Standards tests than other types, and the Clayton valve was added as a mechanical protection.

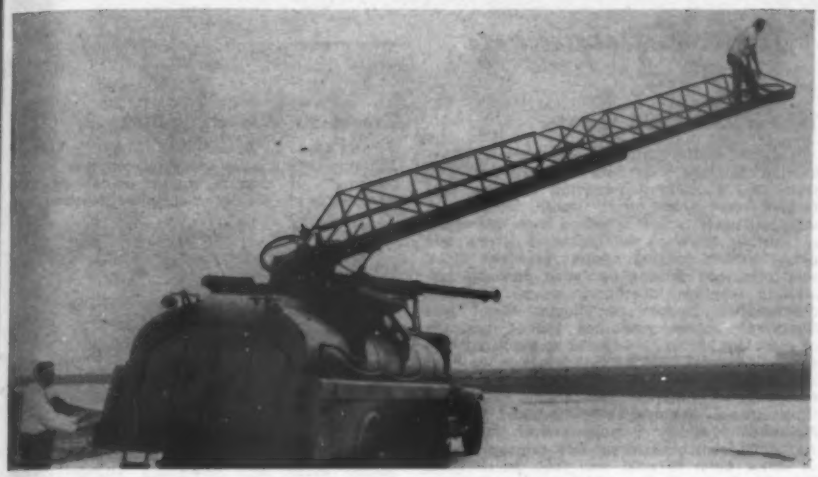
The ATC jeep refueler is admittedly a specialized device designed to meet a particular problem, and would need considerable refinement for airline use. However, in its present form, or with slight modification, it does hold possibilities for the small private airport, airpark or airstrip, since it is relatively inexpensive, highly mobile, and could be used either in connection with drums or with a storage reservoir.

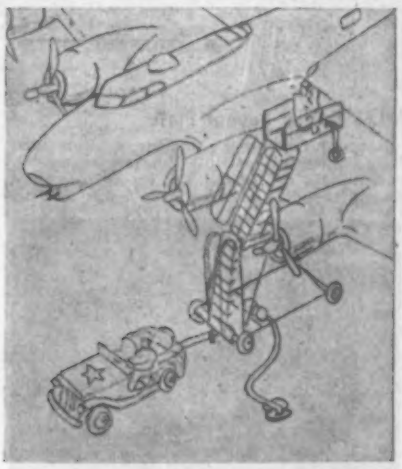
A system based on the same principle suitable for commercial airports has recently been developed by the Wayne Pump Co. Here the gasoline is stored in tanks away from the airport with lines running to convenient hydrants in the traffic area. A stationary high-lift pump keeps the gasoline in the lines under pressure, and a mobile jeep or truck containing the pumping and metering equipment together with supply and dispensing hose on reels permits refueling the plane from these hydrants without limiting the area in which they must stop.

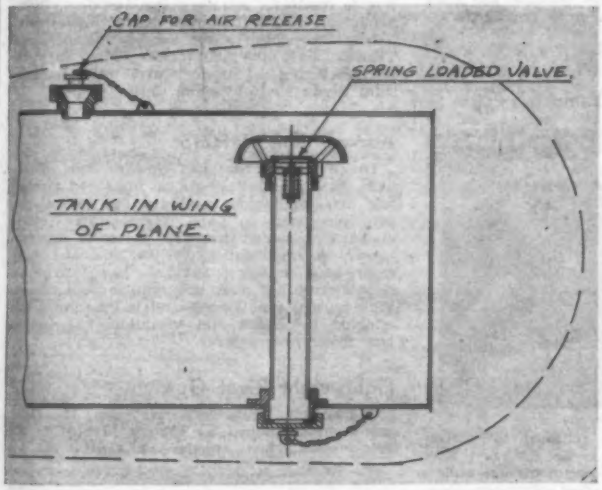
Another important Wayne development is a collapsible fueling hose. Since much of the weight of the hose is the gasoline inside it, collapsing the hose makes it possible for ground crews to handle much larger diameter hoses with corresponding advantages of greater volume yet lower pressure. In use, the hose is positioned while dry. The pump is then turned on, filling it and fueling the plane. After the required amount of fuel has been pumped in, a four-way valve is turned to make the discharge line the suction line and vice-versa, thus emptying the hose and collapsing it before it is removed.

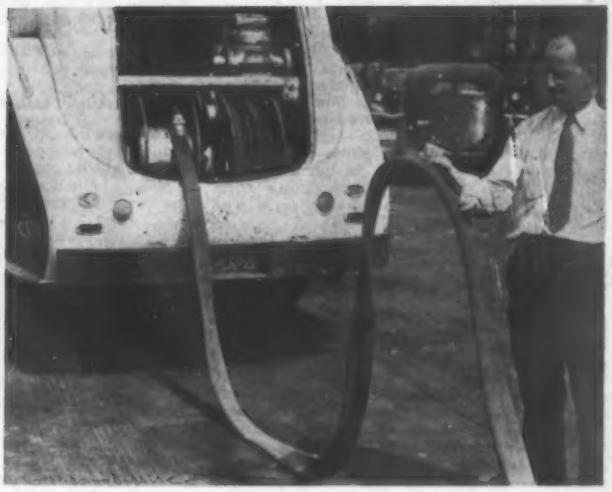
A particular advantage claimed for the collapsible hose is its adaptability to bottom fueling which many airlines believe will be the ultimate solution to the fueling problem since it does away with dragging the hose up over the wing. The principal disadvantage of bottom fueling to date has been spillage, but Wayne experiments with the collapsible hose indicate that this can be overcome. In bottom fueling with the new Wayne hose, the dry hose is connected to the tank opening in the underside of the wing with a simple, leak-proof bayonet fitting. A spring loaded valve permits the gasoline to enter, and when the fueling is completed, this valve closes, the direction of flow is reversed, emptying and collapsing the hose, and it can then be removed without spilling a drop of fuel.

An experimental truck using collapsible hose of a 2½ inch diameter and the Wayne high-lift self-priming centrifugal pump already has been built for United Air Lines. This truck is also equipped with a regular high-pressure positive displacement pump using smaller diameter regular hose on an adjacent reel. In comparative tests the conventional unit has been delivering about 45-50 gallons per minute at a pressure of 45 pounds,









The fueling catwalk, upper left, was built for the Air Technical Service Command by Ohio Pattern Works, but proved too difficult to maneuver around the plane. Upper right, is a fueling ladder designed by Bowser, Inc., for fueling the C-82 Packet without dragging the hose over the leading edge with consequent possible damage to leading edge and de-icer boots. Lower right, is rear of an experimental truck built by Wayne Pump Co. for United Air Lines and equipped with a high lift centrifugal pump and the new Wayne collapsible hose in addition to conventional equipment. Lower left, is a Wayne Pump proposal for bottom fueling in which the fuel would be pumped in the underside of the wing. The hose is attached with a bayonet fitting, and the gas passes up into the tank through the spring loaded valve, which closes after the delivery is completed.

while the new equipment has been delivering 114 gallons per minute at a pressure of around 10 pounds per square inch.

While airlines and others are advocating bottom fueling as the ultimate solution to their problem, it may be some time before the aircraft companies make the necessary provisions in the planes, and realizing that the change will not come overnight, engineers are also working on ways to simplify handling of heavy hose on top of the wings.

One such device is a fueling ladder designed by Bowser, Inc. for fueling the C-82 Packet through the top of the wing without dragging the hose over the leading edge. This ladder is adjustable to any height between 10 and 17 feet by hydraulic means. All other components of this fueling system are standard.

Another experimental device along similar lines was a fueling catwalk designed and built by the Ohio Pattern Works & Foundry Co. in collaboration with engineers of the Air Technical Service Command. It consisted of a catwalk which was mounted on top of a tank truck and extended out and upward and had a contracted length of 17 feet and an extended length of 34 feet. In practice it proved too large and bulky to be maneuverable and did not have a high enough clearance for uses for which it was proposed. A more recent design by the same company mounts a hydraulically operated extension ladder similar to that on a fire truck on a low slung vehicle which can pass under the wing and be maneuvered easily in and about the airplane.

Still another truck along the same lines has been proposed by engineers of Intava. Like the latest Ohio Pattern design it utilizes a low slung vehicle, but in place of the extension ladder mounts an hydraulic platform similar to the hydraulic greasing racks in a filling station. The Intava truck is a complete service unit mounting pumps, meter and hose, and even cans of motor oil, and is designed for use with a hydrant or similar external fuel supply.

Fashion Note: Airplanes Are Wearing Nylon On Their (De-Icer) Boots

If the ladies insist on heat de-icing for their postwar personal planes, the answer may not lie in a sudden understanding of the increased efficiency or safety of this as compared to the old rubber de-icer boots, but rather in a recent bit of information released by the B. F. Goodrich Co. It seems that the old de-icer boot not only requires rubber, but also nylon. In fact, it takes the same amount of nylon to equip one B-29 Superfortress with de-icers as would be needed to equip 30,000 feminine legs with hose.

New Equipment

MLM Radial Layout Plate

A new means for the transfer of information from blueprint or loft to master model, pattern, jig or fixture; known as the MLM Radial Layout Plate, has been announced by

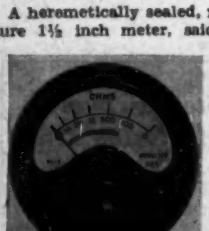
the Contour Co., 43 E. Green St., Pasadena 1, Calif. It has been designed to make available a flat working surface in any of the three dimensions. By means of specially designed protractors, a flat vertical surface is automatically held on the radius line throughout the entire 360 degrees. There are two regular sizes—24-inch and 96-inch—and other sizes can be built to order. All plates are normalized, and the 24-inch size is hand scraped. In addition to the top surface, outer edge and supporting points, the lower edge is also machined for clamping purposes.

Wheel Alignment Checker

An instrument called the Micro-Linor Airplane Wheel Alignment Analyzer, for checking the wheel roll of airplane wheels, has been placed on the market by Micro-Linor Service Corp., 1627 W. Fort St., Detroit 16, Mich. It operates on the "tracer-wheel" principle, with a wheel which runs alongside the airplane wheel being tested and shows the exact direction in which each wheel is rolling as the airplane taxis. In addition to checking alignment, the new device is said to offer a simple and accurate method of checking camber. The standard set fits all open-end axle wheels from 12-56 inches, and the average time required for the test is approximately 15 minutes.

Miniature Meter

A hermetically sealed, ring-mounted miniature 1½ inch meter, said to be the smallest available capable of performing a full-scale task, has been developed by DeJur-Amsco Corp., Northern Blvd. and 45th St., Long Island City 1, N. Y. Known as the DeJur Model 120, it is ring-mounted for easy installation, and is available in a wide variety of ranges including highly sensitive microammeter or microvoltmeter specifications. It can be immersed in water to a depth of 30 feet for as long as seven days without injuring its mechanism.



Direct-Connect Coupling

A new direct-connect coupling which fits over the end of any standard type AND10056 nipple and is especially designed and adapted for use in testing operations is now being produced by E. B. Wiggins Oil Tool Co., 3424 E. Olympic Blvd., Los Angeles 23, Calif. It can be used to connect any fluid or air line in one second, according to the manufacturer.

Thomas Metal Disintegrator

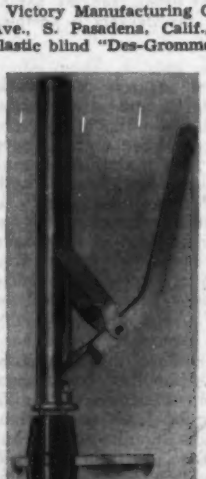
A metal distintegration process developed by Clinton Machine Co., 8240 Harper Ave., Detroit 13, Mich., for removing broken, embedded taps and other small tools from scrapped parts is now speeding such operations as cutting keyways in hardened shafts and gears, cutting dogging squares in brake disks, scarifying and drilling hardened dies and extending oil lines in machines and hardened crankshafts. Known as Thomas Metal Disintegrators, these machines consist basically of a coolant system, graduated step-down transformer, and a working head which holds a modified solenoid cell and actuates a plunger carrying a hollow, non-ferrous electrode. Three models are available—the Hand Portable Deluxe and Master Portable, which have self contained coolant systems but require a drill or arbor press to hold and feed the working head, and the Super, which carries its own column, arm and feed, and permits the head to operate in any position or at any angle.

Martin Air Pressure Clamp

The Glenn L. Martin Company, Baltimore 3, Md., has developed a piston-type air pressure clamp which completely eliminates the necessity for C or other type clamps on most operations. The new clamps provide up to 900 pounds pressure and are controlled by a set of levers. Once they have been set to tolerance as the first part is run through, no further adjustment is necessary. At present their use is confined to stretch presses where the parts to be stretched have a constant contour, but experiments are underway to adapt them to other clamping operations.

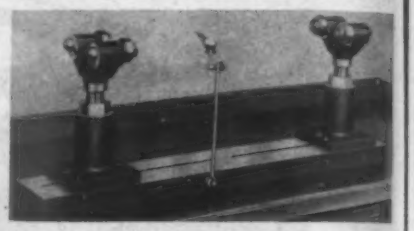
Plastic Blind 'Des-Grommet'

Victory Manufacturing Co., 1105 S. Fair Oaks Ave., S. Pasadena, Calif., has introduced the plastic blind "Des-Grommet" for insulation and protection of cables and lines passing through aircraft and other bulkheads together with a special tool for its installation. The plastic grommets, which are applied from one side, and then locked into place, are available in a wide range of sizes to accommodate cables and tubes from ¼ inch through 2 inches in diameter, and in two thickness settings, one for ⅛ to ½ inch and the other for ½ to 1 inch bulkhead thicknesses. The new grommet is molded from a special non-inflammable Lumarith formula, and tests have shown that it outwears previous iron and lead grommets while providing superior protection to tubes and cables.



Crankshaft Aligning Fixture

The AMSCO Model PA 156-B Crankshaft Aligning Fixture is designed to check the alignment of aircraft engine crankshafts not designed with the internal spline feature, and



can also be used to check alignment of propeller shafts and assembled engine crankshafts. The crankshaft in the fixture is always free to rotate for concentricity checking. Overall length is 36 inches, width 6 inches, and height 13 inches to top of bearing mounted V-blocks. It is manufactured by Airplane Manufacturing & Supply Corp., 6853 Lankershim Blvd., N. Hollywood, Calif.

Aircraft Fire Detector

The Wilcolator Co., 1001 Newark Ave., Elizabeth, N. J., has introduced an improved aircraft fire detector which combines the rate-of-rise principle with a fixed temperature setting above that which may be normally encountered. A modification of the standard indicators used on Army tanks, the new instrument is self-resetting, does not require replacement after normal functioning, and is inherently unaffected by shock and vibration. It weighs less than three ounces.

Lightweight Rivet Gun

A compact, lightweight rivet gun, the C-35, has been developed by Cherry Rivet Co., 231 Winston St., Los Angeles 13, Calif., for installing Cherry Blind Rivets in hard-to-get-at spots. It measures only 11½ inches in length, weighs approximately 1½ pounds, and is operated with one hand.

Trimount Carrier System

A new carrier system for use with dynamic pressure gages and other instruments to measure static and dynamic pressures, acceleration, torque and strain, clearance between moving parts, angular position and vibration has been announced by Trimount Instrument Co., 37 W. Van Buren St., Chicago 5, Ill. It is designed particularly for aircraft test work involving boundary layer studies, air foil pressures and other specialized applications. Frequency ranges are as high as 10,000 C.P.S., and there is said to be virtually no temperature effect.

Flashlight Cell Charger

A single unit charger which will operate from the ignition system of autos or planes to recharge the recently introduced B. F. Goodrich rechargeable wet flashlight storage battery is described in a recent issue of B. F. Goodrich's "Circle News". The unit can be easily mounted on the dash or cowl, and may be connected so that it does its work with the engine either idle or running.

DOWN THE Manufacturing LINE

P & W School Celebrates

Pratt & Whitney Aircraft's Service School has just completed its 10th anniversary. Founded in February 1935, it has trained more than 4,200 students in the operation, care and maintenance of P&W engines. Enrollees have included officers and enlisted men of the United Nations armed services, representatives of aircraft builders, civil service employees and United Aircraft Corp. engineering and service employes.

Solar Making Lockheed, Ryan Parts

Solar Aircraft Company announces it is building engine parts and tailpipes for the Lockheed P-80 "Shooting Star" jet-propelled plane and stainless steel engine parts for the Ryan jet plane.

GM Offers to Buy Buffalo Plant

General Motors Corp. has offered to purchase the Buffalo, N. Y., aviation plant it is now operating under Government lease, Attorney General Biddle disclosed in his second report to Congress on disposition of surplus Government-owned property. A General Motors spokesman said the offer to buy the plant which is now engaged in manufacturing aircraft engine parts does not signify an intent to expand the corporation's postwar aviation activities.

Bellanca Building C-109 Tanks

Welded aluminum bomb bay fuel tanks which are used to convert B-24 Liberators into C-109 Flying Tankers are now being produced for the Army Air Forces at Bellanca Aircraft Corp. The completed tanks are shipped to Air Technical Service Command Modification Centers at St. Paul, Minn., and Birmingham, Ala., for installation.

Ford to Make More P & W Engines

An order for an additional $18,500,000 worth of 2,000 hp. Pratt & Whitney twin Wasp engines has been placed with the Ford Motor Co., the central district of the Air Technical Service Command announces. At the same time a letter of intent recently issued to Ford for $50,000,000 worth of aircraft engines of a different type has been withdrawn.

Winans Leaves Bruening-Winans

W. R. R. Winans, one of the founders of the Bruening-Winans Corp., Rochester, N. Y., has resigned as vice president and treasurer, and disposed of his interest in the company. His future plans have not been announced, but they are expected to be in the aviation field, in which he has been continuously engaged since 1915.

Millionth Bullet-Seal Fuel Cell

Goodyear Tire & Rubber Co. has completed its millionth bullet-seal fuel cell since Pearl Harbor. The millionth cell was an especially large one designed for the wing of a B-29 Superfortress. Altogether more than 200 types of these cells are being produced by Goodyear. They range in size from a 5 gal. oil cell to a 1,600 gal. gasoline cell.

From Ford to Chevrolet

The contract under which the Ford Motor Co. was to have built approximately $50,000,000 worth of Pratt & Whitney R-2800-C aircraft engines has been cancelled, the War Dept. announces, and the project will now be handled by the Chevrolet Division of General Motors Corp. Reason for the change was said to be that Chevrolet is already building the "C" engine, while Ford would have to retool for it. At the same time it was announced that Ford had been given a new $18,500,000 contract for R-2800-B engines which it is already building.

New Engines in C-82

New Pratt & Whitney R-2800-C Double Wasp engines of increased military and normal power are now being installed in production models of the Fairchild C-82 Packet, replacing those in the prototype. Rated at 2,100 takeoff horsepower, the new power plants have improved supercharging which gives them 100 additional horsepower at altitude, and permits full power takeoffs from airports several thousand feet above sea level. They incorporate provision for water injection to give extra emergency power.

Quick Change Power Plant on A-26

Complete power plant changes on the Douglas A-26 Invader can be made in about an hour, the Army Air Forces reveals. Furthermore, there are no right and left hand installations, one assembly fitting either side interchangeably. The plane is powered with twin 2000 hp. Pratt & Whitney R-2800 Wasps.

Honor Kindelberger, Northrop

Citations have been presented to J. H. "Dutch" Kindelberger, president of North American Aviation, Inc., and John K. Northrop, president of Northrop Aircraft Inc., by the Inglewood Kiwanis Club in appreciation of their contributions to aviation and the community.

Patent Assigned to Convair

A patent for a new airscoop arrangement which permits better streamlining for low-wing monoplanes in which the engine is placed directly behind the pilot's seat has been issued to Alfred J. Klose, Inglewood, Calif., and assigned by him to Consolidated Vultee Aircraft Corp. In the new arrangement the cockpit cover sits lower on the fuselage and the airscoop opens directly behind and above it, making for less drag, and consequently higher speed.

Commando Contracts on Fixed Price Basis

Manufacture of Curtiss C-46 Commandos will be transferred from a cost plus fixed fee basis at the Curtiss-Wright plants in Buffalo and Kenmore, N. Y., as well as at the factories in St. Louis, Mo., and Louisville, Ky., according to "The Curtiss- Wright-er". The new contracts will be signed within the next few weeks, and the fixed price basis will be made retroactive to Jan. 1, 1945. The house organ also announced that the majority of sub-contractors working on C-46 parts and supplies have either transferred to fixed price operation or contemplate doing so.

Helicopter Rescues Two

For the second time this year, a Bell Aircraft Corp. helicopter was used on a mercy mission when it rescued two fishermen stranded on ice floes in Lake Erie in mid-March. Floyd W. Carlson, Bell test pilot, hovered the craft in the slush ice as the men clambered aboard. On January 5, Carlson flew a physician over snow-blocked roads and drifted fields to a farmhouse where the doctor treated another Bell pilot, injured after bailing out of a P-59.

New Approved Engines Props and Appliances

Two new types of propellers were approved by the Civil Aeronautics Administration recently. In addition, new models were added to engines, propellers and appliances previously type certificated. The approval numbers and dates of approvals appear in parenthesis.

Engines

Pratt & Whitney, model Wasp Jr. SB-4; 9 cyl. radial air cooled—direct drive; rating: 450 hp at 2300 rpm from sea level to 3500 ft. altitude for all operations. Weight 684 lbs. Uses 87 octane fuel and is designed for mounting with the crankshaft pointing upward vertically. (Type Certificate No. 123, 2-13-45-

Propellers

Sensenich, model 90JA; wood; 90 in. diameter; 83 in. to 79 in. pitch; 225 hp, 2000 rpm. (Type Certificate No. 811, 2-12-45)

Sensenich, model 44K24605; wood; 90 in. diameter; 81 in. pitch; 225 hp, 2000 rpm. (Type Certificate No. 811, 2-12-45)

Flottorp, model 76F1; wood; 76 in. diameter; 62 in. to 54 in. pitch; 113 hp, 2200 rpm. (Type Certificate No. 754, 2-7-45)

Sensenich, model 100CC; wood; 100 in. diameter; 67 in. to 58 in. pitch; 225 hp, 2100 rpm. (Type Certificate No. 546, 2-15-45)

Sensenich, model 100CD; wood; 100 in. diameter; 67 in. to 58 in. pitch; 225 hp, 2000 rpm. (Type Certificate No. 546, 2-15-45)

Sensenich, model 96AA; wood; 96 in. diameter; 66 in. to 62 in. pitch; 225 hp, 2100 rpm. (Type Certificate No. 546, 2-27-45)

Sensenich, model 43K13605; wood; 90 in. diameter; 79 in. pitch; 225 hp, 2000 rpm. (Type Certificate No. 811, 2-27-45)

Flottorp, model 75C; wood; 75¼ in. diameter; 48 in. to 42 in. pitch; 63 hp, 2300 rpm. (Type Certificate No. 408, 2-28-45)

Appliances

Pan American Airways, safety belt models 19.010.037D-21, -22, -23 and -24. Approved for one person. (Type Certificate No. 104, 2-10-45)

Standard Control Panel

Engineers of North American Aviation, Inc., and the Army Air Forces have developed a standardized armament control panel for all types of pursuit planes to make it easier to train mechanics and lessen possible mistakes in servicing, according to the North American "Skywriter". The panel arrangement includes fingertip control for machine gun, bomb, gun camera, chemical tank and rocket control switches. It will be standard equipment in all AAF fighter aircraft.

Goldberg Youngs

Spencer J. Leech, recently appointed executive assistant to the sales director, Stinson Division, Consolidated Vultee Aircraft Corp., has been assigned to the Stinson postwar sales program to organize a postwar distributor setup.

Charles J. Roggi, formerly with Curtiss Wright Corp., has joined Fairchild Aircraft Division and will be connected with the commercial sales development program of the C-82 Packet.

Robert H. Kittner, formerly with the American Hard Rubber Co., New York, has joined the Glenn L. Martin Co., Baltimore, as manager of its newly created plastics and chemicals division. **Clayton F. Ruebensaal** has been appointed technical director of the new Martin division.

A. J. Gariepy, formerly contracts and service manager of Lawrence Aeronautical Corp., Linden, N. J., has been advanced to assistant to the president.

William W. Martin, previously a pilot with Transcontinental & Western Air and Mid-Continent Airlines, has been named assistant to the director of advertising of the Aireon Manufacturing Corp., Kansas City, Kans.

Ralph S. White, former chief of the powerplant section of the CAA, has been appointed manager of engineering development of the Ranger Aircraft Engines Division of Fairchild Engine & Airplane Corp.

Harold Mansfield, public relations director of Boeing Aircraft Co., Seattle, has been elected chairman of the Public Relations Committee, Western Region, Aeronautical Chamber of Commerce, succeeding **John E. Canaday. P. K. Macker,** North American Aviation, Inglewood, was elected vice-chairman.

Manufacturing Personnel

Martin Kittner

Gariepy Parks

Roggi White

Ellis E. Doherty, formerly with the War Department Signal Corps Production Office in Boston, has joined Marion Electrical Instrument Co. as director of purchasing and expediting in its Manchester, N. H., plant.

Frederick E. Burnham has resigned as general accountant of United Aircraft Corp. He has been with the company nine years.

Omberg Leech

C. R. Starnes of Gladewater, Tex., has been elected a vice president of Globe Aircraft Corp. **Jon Knox Rhodes,** formerly secretary, has been named assistant vice president and elected to the board of directors. **W. Garrett Morris** has been elected secretary, and **Norman Nicholson,** assistant to the president, a director.

Col. William P. Youngs, chief of the special projects division of the Air Service Command, and a former executive of Curtiss-Wright Corp., has been awarded the Bronze Star Medal for playing a vital role in establishing American air bases in Russia.

Hanson A. Brown, formerly with Lockheed Aircraft Corp., has been appointed executive vice president of Edo Aircraft Corp.

Arthur C. Omberg, former assistant chief of the operational research branch, U. S. Army Signal Corps, has joined Bendix Aviation Corp., Radio Division, as chief research engineer, and **Dr. Harold Goldberg,** former senior engineer with Stromberg-Carlson, has joined the research staff.

Homer L. Bredouw, who has served as president and general manager of Missouri Aviation Corp., Kansas City, since its founding, except for a two-year leave in the Army Air Forces, has been named chairman of the board. **F. C. Kaths** succeeds him as president.

Marvin J. Parks, previously assistant director of contracts at Curtiss-Wright, Buffalo, has joined Fairchild Aircraft Division, Hagerstown, Md., where he will act as flight service engineer on the C-82 project.

Production Increases 40% Due to Incentive Wages

Incentive wages increased production per manhour by about 40 percent during the first 90 days after plans were instituted, John W. Nickerson, director of WPB's Management Consultant Division announced in his report on operation of the plans during 1944. Wages increased 15 to 20 percent during the first 90 day period while unit labor costs decreased 10 to 15 percent. About 1,000,000 workers were covered by incentive wage plans during 1944.

"The division gave continuing attention to the aircraft industry during 1944 and the progress of several important plant-wide incentive plans in fighter plants was followed. Joint analyses were made by WPB management and labor consultants for the War Labor Board on 76 new incentive plans. In many other instances, direct assistance was afforded to companies in preparation of plans, Nickerson stated.

According to the War Labor Board 2,628 voluntary cases involving incentive plans were approved by the national and regional boards in the six-month period from April to September 1944.

NWLB Refuses to Enter Dispute at Wright Aero

National War Labor Board has refused to take jurisdiction over a dispute at Wright Aeronautical Co. which has 91 unsettled issues, the majority of which do not affect basic working conditions or the relations between the parties involved.

"The absence of agreement on even the most trivial issues makes it evident that the parties have not discharged their obligation to bargain collectively," the Board stated.

Financial Reports

United Nets $6,614,991 in 1944

United Air Lines reports a 1944 net income of $6,614,991 before provisions for postwar readjustments. This is equivalent to $4.12 per share of outstanding common stock after dividends on preferred stock. In 1943, net earnings were $4,203,276. Operating revenues for 1944 totaled $35,629,965 as against $27,650,545 in 1943. Operating expenses and taxes, exclusive of income taxes, were $24,213,875 as contrasted to $20,425,760 in the previous year. Provisions for income taxes totaled $4,744,400 as against $3,480,174 in 1943. The company set aside $500,000 from net income for postwar readjustments.

Current assets, as listed in the consolidated balance sheet, as of Dec. 31, 1944, are: Cash, $2,803,484; U. S. Government securities at cost, $7,547,527; Canadian Government securities at cost, $247,748; Receivable, from airlines, customers, agencies, etc., $1,657,732; from U. S. Post Office Dept. for carrying mail, $2,330,676; from U. S. Government for war contracts, transportation, etc., $4,411,079; Unbilled charges to U. S. Government, $1,376,536; Inventories of repair parts, materials and supplies at average cost, $1,112,472; for a total of $27,487,254.

Investments and special funds total $14,919,464 as follows: Funds for purchase of operating property and equipment—cash and U. S. Government securities at cost, $12,839,140; Investment in and receivables from Mexican subsidiary not consolidated at cost, less reserve, $1,575,504; Non-operating property and equipment at cost, less reserve, $374,211; Other, $130,609.

Deferred charges of $689,166 are broken down into: Prepayments, $159,958; Advances for construction of airport facilities, being amortized over terms of leases, $489,301; Other, $39,907. Operating property and equipment are listed at $6,895,558, bringing total assets to $49,991,442.

Liabilities of $49,991,442 are as follows. Under Current Liabilities: Accounts payable, $1,197,860; Amounts due other airlines for sales of transportation, $1,405,341; Deposits received under volume travel plan, $1,616,661; Advance payments from U. S. Government on war contracts, $1,308,458; Accrued salaries, wages and employees' bonuses, $861,819; Accrued Federal taxes on income, $4,944,917; Other accrued taxes, $1,065,203; Other current liabilities, $332,706. Total, $12,732,965.

Deferred credits amount to $396,636; Reserve for postwar readjustments, $2,500,000; Preferred stock plus accumulated dividends, $10,503,200; Common stock, 1,500,451 shares outstanding, $15,004,510; and Earned surplus, of which $3,918,000 is not available for payment of cash dividends on, or reacquisition of, common and management stock, $6,835,131.

During the year United flew 456,514,969 revenue passenger miles, 4,222,853 express ton-miles and 18,888,704 mail ton-miles for gains of 28%, 6½% and 71% respectively over 1943. On its domestic routes, United registered a 96% revenue passenger load factor in 1944 as against 92% in 1943 and 66% in the last prewar year. Priority travel accounts for 74% of the business as compared to 64% in 1943.

Continental Motors Dividend

Continental Motors Corp. on March 30 paid a dividend of 20c per share on its outstanding common capital stock to stockholders of record at the close of business March 9. Holders of the old no-par value and the old $10 par value common capital stock, issued and dated prior to October 25, 1935, were required to exchange their certificates, share for share, for the present $1 par value before receiving this dividend.

Aero Supply Net Sales $12,923,949

The 1944 annual report of Aero Supply Mfg. Co., Corry, Pa., shows adjusted net sales of $12,923,949 for 1944, a $6,417,100 decrease from the 1943 figure. The decrease included $1,275,300 in the form of voluntary price reduction refunds to the Army and Navy, $402,700 as a result of a 10% reduction in selling prices effective Sept. 1, 1944, and $4,739,000 from the reduction in volume sales. Renegotiation of 1943 war volume resulted in an actual charge of $1,032,573 as against a reserve provision of $1,040,000. A similar estimated reserve was set aside for 1944.

Final net income of $338,022 was equal to 76.6 cents per Class "B" share, excluding Treasury stock, of which 22.8 cents represents the postwar refund. Dividend disbursements of $1.50 per Class "A" share and 30c per Class "B" share were equal to 42.9% of final net income.

Increased attention is being given to the most advantageous utilization of the company's resources in the postwar period, and an engineering firm has been retained to supplement staff research activities both within the aircraft accessories and general industrial fields.

North American Net 8½ Million

Sales of $718,003,496 during 1944 produced a consolidated net income, after all charges, of $8,389,967 for the fiscal year, North American Aviation, Inc., announces in its annual report to stockholders. The total earnings were equivalent to $2.44 per share on 3,435,033 shares of outstanding capital stock, an increase of 46 cents over the $1.98 per share reported for the fiscal year ended September 30, 1943. The 1944 sales compared to sales of $509,139,549 for 1943, and the year's earnings to a consolidated net income of $6,790,323 for the previous year. Operating and material costs in 1944 were $622,786,966 compared to $421,175,981 the previous year, while other major deductions from income include a $71,700,000 provision for federal taxes on income and refund in connection with contract renegotiations.

Surveying the past year's vast volume of wartime production, the stockholders' report points out that in 1944 alone the company produced 121,700,000 airframe pounds compared to 109,000,000 pounds in the nine-year period from 1935 to 1943. By the end of the fiscal year September 30, 1944, North American had delivered 29,000 B-25 Mitchells, B-24 Liberators, P-51 Mustangs and AT-6 Texans, equal to 12½ percent of the 232,000 airplanes of all types produced in the United States since the start of the national defense program on July 1, 1940.

Aviation Securities Over the Counter

(Courtesy Merrill Lynch, Pierce, Fenner and Beane)

	March 10		March 17	
	Bid	Asked	Bid	Asked
AIRLINES				
All American Aviation	9¼	9¾	8⅞	9⅜
American Airlines pfd.	Called January 15, 1945 @ 106			
American Export Airlines	33	34	34½	35½
Braniff	18⅛ close		19¾	.....
Chicago & Southern common	15¼	15¾	15¾	16⅛
Chicago & Southern warrants	7½	8	7⅞	8⅜
Continental Airlines	13	14	14½	15½
Delta Air	24¼	25	25	25¾
Inland Airways	4	4½	4¼	4¾
Mid-Continent	9¼	9½	9¾	10⅛
National Airlines	16½	.....	18¼	.....
Northeast Airlines	12¼	.....	13	.....
MANUFACTURERS				
Aeronca	4⅛	5⅛	5⅛	5⅜
Air Assoc.	12¾	13	13⅛	.....
Aircraft & Diesel	1⅝	2	1¾	2
Aireon Mfg.	6⅜	.....	6¾	.....
Airplane & Marine	6	6⅜	7¼	7¾
Airplane Mfg. & Supply	4	4¼	4¾	5
Central Airports	¾ bid	.....	¾ bid	.....
Columbia Aircraft	½ bid	.....	⅝ bid	.....
Continental Aviation	4⅜	4⅞	4⅝	5
Delaware Aircraft pfd.	offd. @ ¼	no bid	No bid	....
General Aviation Equipment	1⅛	1½	1⅛	1⅛
Globe Aircraft	1⅛	1¼	1⅛	1⅛
Harlow Aircraft	½	¾	½	⅝
Harvill Corp. com.	1¾	2	1⅞	2⅛
Interstate Aircraft & Eng	13	13¾	13	13½
Jacobs Aircraft	4¼	.....	4⅛	4⅜
Kellett Aircraft	1⅝	2	1¾	2
Kinner Motors	1.40	1.55	1.30	1.40
Liberty Aircraft	13¼	13¾	14	14½
Luscombe	1⅛	1¾	1⅝	2
Menasco Mfg.	1½	1⅞	1⅝	1⅞
Northrop Aircraft com.	7⅞	.....	7¾	8¼
Piper Aircraft com.	3¾	4⅛	3⅝	4
Piper Aircraft pfd.	37 bid	.....	37 bid	.....
Pitts. Aviation Ind.	final liq. 76c available at Farmers Nat'l Bk.			
Rohr Aircraft	10⅜	10¾	10½	11
Std Aircraft Prods	⅜	⅝	50c	65c
Taylorcraft common	2½	2⅞	3	3⅜
Taylorcraft pfd.	7¼	8	7¾	8½
Timm	75c	85c	90c	1.05
Utd. Aircraft Prods. pfd.	18½	19½	19¼	20¼

Advertisers In this Issue

10,000th at Rankin— Rankin Aeronautical Academy's 10,000th cadet to report for primary flight training, A/C L. M. Norton, Jr., is greeted by Maj. Richard I. Berg, America's top air ace, himself a graduate of Rankin Academy.

New Radio Equipment Certificates Issued

New type certificates issued since the first of the year by the Civil Aeronautics Administration for aircraft radio equipment include:

Company
Bendix Radio Division
CAATC
No. Type of Equipment
976 Type MT-68EC Mounting Base
998 Type MS-44D Remote Control
801 Type MT-83B Antenna Tuning Unit
997 Type MS-44C Remote Control
996 Type MN-20E Rotatable Loop Unit
872 Type RA-2C Aircraft Receiver
995 Type MS-34A Jack Box
967 Type MN-28-Z Remote Control Unit
Bendix Pacific Division
733 Model 3969-B Range Filter
Transcontinental & Western Air
545 A-427 Radio Control Unit

CAATC No. 740 pertaining to the Aircraft Accessories Corp. Type 803-A Whip Antenna has been cancelled as of Dec. 30, 1944.

Classified Advertising

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